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THE
GOLDEN GATES OF TRADE
WITH
OUR HOME INDUSTRIES;

INTRODUCTORY TO A STUDY OF
MERCANTILE ECONOMY
AND OF
THE SCIENCE OF COMMERCE.

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"PRETIUM NON VILE LABORUM."
"Not to be contemned is the reward of labour"
Motto of the Order of the Golden Fleece, A.D. 1430.

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"Just as in an individual it is mind and body that, operating together, work out a man's life as their common result, so it is not merely the country, but also the race, that produces history for good or for evil. In California the gold existed from the days of old; there was that splendid harbour of San Francisco, and the gigantic Wellingtonia rose in the valleys before man set his foot under its majestic shade. But for centuries had the hapless Indian, the haughty Spaniard, possessed the country without finding a single nugget, without sending a single keel out of the GOLDEN GATES; and not ere the sharp eye, the active mind, the strong arm of the American seized upon this Western paradise, did California rise to its immense historical and commercial importance."

DR. G. KINKEL.

PREFACE.



FROM the days of Whittington, "thrice Lord Mayor of London," merchants have been looked upon as gold-workers or gold-finders, and mercantile ability has been considered a sort of alchemy. Without gainsaying the popular notion, we may be nearer the truth in stating that, while merchants do not expect to discover the secret of transmuting the baser metals into gold and silver, they do help heartily to make desirable things universally accessible; also, to find uses for crude or unserviceable things, and even to create new values by removing commodities from places in which they are of little or no worth to other places where they may command a market. Mercantile ability is not unreasonably regarded as the main-spring of manufacturing industry, as commerce is felt to be its balance-wheel. Mercantile economy, in contradistinction to political or social economy, forms the basis of industrial enterprise. Commerce has been defined as "mutual service, by exchange, for mutual advantage." Monopoly is antagonistic to commerce, like conquest, the aim of which is plunder. Intelligence, coupled with industry and integrity, is rightfully considered the greatest money-maker, not by extortion, but by wise production and widespread distribution.

This book is designed to give an insight into what is called

commercial "movement," and to make it, if possible, attractive to beginners in life, be they in banks or in counting-houses. As the alchemists of old introduced their young disciples by the "golden gate" of the laboratory to their crucibles and furnaces, their alembics and aludels, so we welcome the student on the way to wealth through the strait gate and the narrow way trodden by our forefathers, who built our guildhalls and beautified our cities, raised the credit of England abroad and maintained it at home. We commence by the elements of industry and economy, continue the subject in the material conditions of commercial success, and conclude with comparative views of the natural resources of our neighbours, and of those belonging to ourselves in the United Kingdom.

We trust that the series may be made serviceable in our secondary schools and technical colleges; for, in the words of Dr. W. B. Hodgson, when an assistant commissioner on education, "this knowledge is not dead lumber, but living seed; it gives reality and place and purpose to the coming life, makes plain the connection between individual and social welfare, between physical and moral well-being. It tends to make foresight do the bitter work of experience, to substitute wise and early resolve for late and unavailing regrets, to give motive-power as well as salutary restraint.

"Those who know by experience how full of interest, how fruitful in good, such instruction is to the young, how it brightens the eye and touches the feelings and strengthens the will, and harmonises practice with the sense of duty, cannot but ask, 'Why is it not universal? Why is it not in our training colleges, and from them diffused throughout the elementary schools in every corner of the land, spreading from them upwards into the higher schools, reversing the course of

ordinary light, which first tips the hill and then sinks into the valley?"

In the preparation of this book the author has benefited by the laborious assistance of commercial correspondents, and also of experienced teachers. To all helpers he tenders his sincere thanks. The aid of one gentleman, who was seven years a pupil of Dr. Thring of Uppingham Grammar School, and subsequently a junior partner in a leading London shipping firm, may be regarded as the "outcome of personally felt wants, and of ulterior knowledge, practically and painfully acquired."

J. Y.

P.S.—Dr. Neil Arnott, speaking of a set of books for education in science, said (see Introduction to his "Elements of Physics") :—"To have all the perfections of which they are susceptible, they can be looked for only from academies of science or from an association of learned men; and even then they cannot be compiled by each individual taking a distinct part or parts, but by the parts being undertaken conjointly by several persons, so that he who conceives most happily for students may sketch,—he who is learned may amplify,—he who is correct may purge,—he who is tasteful may beautify, &c." Fortified by such authority, let me state briefly that this unpretending little volume, like "*Map Studies of the Mercantile World*," has been prepared on the above principle. The best available help has been sought for at home and abroad;—yet verbal errors may have escaped notice. Notwithstanding these, however, and a few seeming discrepancies between English and foreign statistics, it is hoped that both books may prove suggestive, and so advance the cause of neglected commercial education.

INTRODUCTION.



WE may suppose the arrival in London of a fairly educated youth, bearing testimonials and a letter of introduction to one of those merchant princes whose name is "good" for anything to which it is attached, who is upright and down-right in all he says and does, yet as generous as he is just. His heart warms towards the younger man when they meet, though fearing some mistaken notions about mercantile qualifications intended both to "dignify industry and to fructify capital."

"I am asked whether you are likely to be serviceable in a merchant's office," says the senior, returning "credentials" with a smile. "Does not that depend on whether a mercantile life would suit your inclinations? *Have you any idea of the requirements of business generally?* Do you know anything of **modern languages for commerce**, or of **science for manufactures**? What are your own views and plans? *Have you had any special training?* For your worthy father's sake I will be frank, and try to help you in your choice at home or abroad.

"What do you think of these few lines hung up on my wall? Do they shock you? 'The youth who enters our counting-room may find himself the youngest member of a large establishment; let him not lose heart, but learn to be patient, to obey, and to endure reproof without anger, and to bear contradiction with good-humour! He will be

obliged to keep his wits about him; to have accurate eyes and truthful ears; to remember that there are just sixty minutes in an hour, twelve pence in a shilling, and twenty shillings in a pound. He will be compelled to bear and forbear, to resist temptation, to struggle down rebellious impulses, and to put on the armour of a brave silence. The hours of his day will come freighted with lessons of self-reliance and self-command, and the grain of his character will, it is hoped, grow firm under the discipline of self-respect and a sense of duty.'

"They don't shock you? Good! Perhaps you have never been led to form plans yet, still less to prepare for them. In any case, then, *you are not in a false position; you have not assumed to be what you are unfitted for and may become; though you have much to learn, and a little, probably, to unlearn.* The question will be, Who is to teach you? Properly speaking, a counting-house is a place in which you are expected to *use* knowledge, not to seek it. In mine, and in most warehouses, every man has his own work, which cannot conveniently be left for the purpose of instructing newcomers; nor can you proceed safely without help or guidance. You can neither 'pick up' knowledge of your duties here, nor find them out by private study, I am afraid. During your college days it has been enough for you to pursue your work quietly, and to stay at your desk comfortably until you could finish a certain task or solve a definite problem, sooner or later, and with or without aid. *But in business, remember, time is money.* The telegraph and the telephone allow of little leisure for meditation. Decision and despatch are imperative to the merchant; while too often the whole of the conditions on which success or failure depends are not made clear to him, but designedly concealed. And even when all probabilities have been weighed, and seeming opportunities seized, mistakes may occur, and then serious losses ensue. **Fortunate are those who are best informed, and whose minds are most acute and ready in resource!**

“Your scholastic attainments are creditable to you, yet, whatever your admiration of the classic ages, *progress* is the order of this day. Business men will *not* rest content with mere memories of past achievements. *There is a craving for an increase of knowledge, for fresh ideas.* Manufacturers are on the alert for new materials or for new modes of using old ones, as merchants look out for quicker and cheaper lines of communication with larger and better markets. The substances in which we deal most freely and extensively every day were hardly known to the ancients. I mean such things as alpaca wool, beer, butter, cocoa, coffee, cotton, fish-oils, gutta-percha, jute, paraffin, petroleum, potatoes, spirits, sugar, tea, tobacco, &c. *The mercantile world is enlarged; its resources are more various and available.* When I was your age men used to confine their transactions to particular localities or produce with which they were thoroughly conversant; then preparation for business was comparatively simple. The leading firms were few, and divided into dealers in agricultural products, in colonial wares, drugs and dyeing stuffs, fuel, meat, minerals, miscellaneous matters, yarns, &c.; now, if specialists, they are classed as Baltic or Black Sea traders,—as China, Cape, Colonial, Canadian, General, Indian, Island, Japan, Levant, Mediterranean, Mexican, North and Central Asian, Persian Gulf, Red Sea, Straits and East Indian, States and South American, United Kingdom, White Sea and Norway, West African, West Coast, West Indian, and Zanzibar. In our day merchants contrive to carry their capital and their energies in several directions at once, buying and selling wherever an opening presents itself and where there is sufficient sense of security. Notwithstanding this fact, the division and subdivision of labour amongst individuals and societies, and even nations, become most perplexing. *One country furnishes raw material, another works it up, a third dyes it, a fourth only deals in it, &c.* Unless you can open up a new source of riches—‘strike oil,’ as the phrase is—I think you should be content to follow us old folks and seek your consolation and

your reward in the prospect of being useful in the world, which is wide enough. *How much the merchant helps to make accessible, to high and low!* How many persons he brings into harmonious co-operation! My luncheon on the table there is a biscuit and a glass of water. Though among the simplest things, reflect for a moment what multitudes of people have had to lay their heads together to obtain the refreshment for me. The rain from heaven does not fall incessantly. It has to be collected miles away, stored, freed from impurities, conveyed in pipes, large or small, rigid or flexible, fitted with curious valves and taps, to be finally drawn for drinking here. Consider the capital embarked by the New River or any other company in the Metropolis, or in our larger cities, and the skilled and unskilled artisans employed. The wells and springs being dried up around, we should die of thirst were there no distant reservoirs with costly communications kept up by municipal and mercantile supervision, through the discipline of organised industry and a latent sense of our mutual dependence. **The failure of these perceptions and habits would be as fatal to the townspeople as the longest season of drought.**

Again, no city in this island, none in Europe, I believe, is entirely self-supporting as regards bread. All are forced to draw on foreign countries, and trust to the merchant to send back "*home-products*" in exchange. We require, too, more than food. We want fuel and clothing. To *prepare* the different articles of your dress how many people are and have been kept busy for months! *The work goes on all the year round.* As in the case of bread, where the consumption is constant, yet the time of harvest varying, so in articles of clothing, the growing and gathering, the spinning and weaving, the dyeing and finishing, are *continuous* processes—unseen until completed. While you look into the windows of our shops, the mercantile agent thinks of the distant reservoirs of supply; he has also to speculate upon possible changes of taste, or seasonal interference, or pending

alterations in some of the arts of production or transport, which may affect values—for *no branch of business is beyond the reach of further improvement*—and he has to calculate the losses or the prospective gains. He has to consider wants, supplies, and values, with equivalents, or means of payment. **In every marketable commodity are three things, seen or unseen**—the *material* of which it is made, the manual or mechanical *labour* bestowed upon it, and the *intelligence* that entered into its design and construction. Keep your mind on them all!

“Look at the gloves you are wearing! Did you ever think how much mechanism had been set in motion, or what number and variety of workers had combined efforts on that single piece of apparel before you purchased it? A Spanish author said that to provide a perfect glove three kingdoms must furnish their quota of handicraft. His own country came first for preparation of the leather, France for cutting out, and England for making the seams. Although this notion may be obsolete, still the products of remote parts of the globe appear in that small article. An animal had to be reared or captured somewhere, and deprived of its skin, which was passed in succession to dressers, doleers, splitters, puncturers, embroiderers, sewers, and claspers. The stitching involved use of material from the cotton plantations of Egypt, America, or India, transported by Liverpool seamen, and spun in Manchester or thereabouts. Or if silk be used, it came probably from Eastern lands, to be wrought and reeled in Lyons or Macclesfield, and afterwards dyed in a product from the Levant or Persian Gulf, or even in a colour obtained from coal-tar. Who can give the entire history of the buttons employed? Briefly, they would not be forthcoming without commerce. The trifles we wear or capriciously reject often yield sustenance and comparative independence to numbers of our fellow-creatures.

“*There is a close relation between a workman and his work. We are all in danger of becoming ‘subdued to what*

we work in, like the dyer's hand.' Very few occupations by which we earn our bread are directly conducive to moral or intellectual growth. Most of them are at best but neutral in this respect, and many are not free from certain dwarfing and deforming tendencies, which a man sedulous of self-culture will foresee and guard against. 'The struggle for subsistence is so keen that an artisan usually consents to do but one thing, in order that he may do it in the best manner. The weaver may thus become an animated shuttle; the seamstress a living needle; the labourer a spade or shovel that eats and sleeps, though not necessarily so.' Each worker assumes a certain task, for his own good mainly, as it seems; yet one that ultimately turns out to be the maximum advantage for the public, at a minimum expenditure of time and money. There is a reward for the diligent, for him who sees his opportunity and does his duty faithfully; but if he fail, or if he fall, in the struggle among the strongest, another soon takes his place. Such, at least, has been my experience!"

In a series of short chapters the reader will find further expounded a mercantile man's notions of the essentials of business. A beginning is made with mercantile economy, because this teaches the importance of commerce from a national point of view, and especially shows the industrial and social forces which it brings into action. Through these mainly we discern the laws that regulate supply and demand, inseparable from resources and wants.

The "necessaries of life" supply temporal wants only—ever present, it is true—but beyond them the demands of a nobler nature claim recognition. Instead of the mere gratification of momentary appetite, we make comparison of advantages prompted by higher aspiration, whence come higher endeavours.

The subjects discussed are wants, sources of supply, with divisions of labour. Next rural occupations and town pur-

suits, with trade-centres and capitals. Our own Metropolis is then studied, its inlets and its outlets, its internal and its external trade; the ebb and flow of merchandise, competition and co-operation, migration and emigration, the commercial site of the United Kingdom, our great oceanic communications, railway thoroughfares, rivers, canals, and junctions. Then follow importing and exporting, requirements for business, new openings for trade, fellow-traders, rivals in business, our standards and our safeguards. The home industries of the United Kingdom come next, with a synopsis of the natural divisions of trade throughout the world.

As specimens of the seemingly intricate ramifications of commercial work, take the systems of credit, banking, and marine insurance. How many of the multitudes making daily use of these agencies could explain their principles? *These systems have been worked out and perfected, by the leaders of commercial thought, in accordance with the laws of rectitude and exact responsibility.* True, the masses cannot be philosophers, or all heads of departments; yet how vastly would the work of production and trade enlarge were the rank and file all so efficiently trained as to be faultless in the discharge of duty, though not competent for the rank of commanders! The system of credit is based upon good faith, as production, in its entirety, is upon the industrial virtues. *Thus, moral law suffused with commercial law involves moral as well as intellectual training.* The theory of probabilities, upon which is constructed the system of insurance, reduces uncertainties to certainties, thus enabling us, on the principle of averages, to compute risks, whether the "act of God" or that of man, with mathematical precision, and to commute losses by spreading them over so wide an area as to be inappreciable. Surely the man who understands the law, as well as the practical working of such agency, is of greater worth than one whose knowledge is bounded by his counting-house experience.

Perhaps in no division of commerce do more confused ideas

prevail than those in regard to money and its functions. Why do bankers lend, and make large profits on money entrusted to them for safe keeping? What causes the rates of discount to vary, and what the fluctuations on bills of exchange? *What is the "money market," when money is the medium of exchange in every market? What commodity is bought in the money market, since we cannot buy money with money?* How admirable is the idea of reducing all values to one common standard of measurement, and of fixing upon gold as a medium universally acceptable, whereby the interchange of diverse commodities can be effected with the ease of exchanging similar merchandise, and all distant trading States are able to deal with each other in a common language of values! What are the scientific bases of our standard weights, measures, and coins? How are the standards preserved from variation, and how could they be recovered if lost? *Wherein do the systems of computing values and quantities in other countries excel our own, and what advantages would accrue from uniformity of methods?*

Such questions claim the thought of every one whose intelligence rises above that of mere mechanical or perfunctory routine in the business of exchange. They presuppose that *scientific culture which moulds the conduct and character of mercantile men, and endows them with the power to hold their own against all comers.*

Again, among the incidents of industrial and commercial life, within the province of economic science to elucidate, are the migrations between country and town, and town and country, merging, when the conditions arise, into the colonisation of distant regions and the opening up of new connections and markets. These occurrences exemplify the social law that tends to localise trades in special centres, and causes labourers to congregate or disperse in accordance with the means of subsistence. The economic importance of our Colonies must be a subject of interest to the home-country, for "Greater Britain" comprises territories sixty-five times the area of the

United Kingdom, and "trade follows the flag." England's commercial supremacy would still have to be maintained even were her over-sea intercourse solely colonial. The mutual advantages of the Colonies and the United Kingdom to each other is not an undisputed point; but our merchants, above all others, should have no faltering convictions upon such a matter.

The intellectual and moral discipline of training in research, or the habit of seeking the causes of economic phenomena, is perhaps of greater import than the actual knowledge acquired. Both combine for practical application to the character and career of the merchant, who thus qualified becomes a pioneer of progress and a benefactor to his race. He has possessed himself of the key of the "Golden Gates," through which he enters to prosperity, and he leaves them open to the Ages for his fellows to follow.

In the language of Mr. Thomas Twining of the Twickenham Economic Museum, "the thoughtful introduction of science-training of the right sort might, in due time, yield a supply of earnest and intelligent men, working *con amore* at the furtherance of their country's industrial and commercial prosperity. To the living, not merely the dead languages," he remarks, "the young merchant should turn his attention in completing his commercial qualifications. His training should not cease with his school or college education, for he should always keep himself fully instructed in the tastes, as well as in the actual wants, of the regions open to his enterprise."

In accordance with a suggestion of the same life-long advocate of the claims of practical science in industrial education, this work is divided into consecutively numbered paragraphs; and test questions are appended, framed upon the numbered paragraphs, so as, in self-examination, to bring fairly to light to the student himself the amount and accuracy of his attainments; while, in a general examination, his answers will well show to what extent he has understood and retained the information given.

"The examiner selects a given number of the questions in the series, or *Questionary*. The student has the confidence of knowing that he cannot be asked any question which he has not a fair opportunity of qualifying himself to answer; but at the same time, as he cannot guess beforehand what questions may be selected, he is compelled to prepare himself for all, not learning anything by rote, but imbibing the gist of the whole range of the subjects treated. By this means candidates are secured against irrelevant or eccentric questions, while their intelligence is left free-range in the character of their answers. On this account the system of previous publication of the questions has been termed *open-handed*, and adapts itself with advantage to standard text-books."¹

¹ See "Phases of Technical Training," by Thomas Twining, &c., &c., 1888.

CONTENTS.



CHAPTER I.

NECESSARIES, CONVENIENCES, COMFORTS, AND LUXURIES.

PARS.	PAGE
1. Examination and classification of wants	1
2. Increase of the population of England since 1800	3
3. Supplies drawn from nature by the application of industry and intelligence	3
4. Explanation of barter and exchange growing into commerce .	3
5. Town harvests and country harvests, with the respective labourers	4
6. Business of the merchant or interchanging agent	4
7. Liability of derangement in ordinary business through outside influences	5
8. Industrial divisions among our population	5
9. Definition of a raw product and an "ennobled" product . .	6
10. Law of the growth of towns, cities, and trade-centres . .	7
11. Real wants and acquired wants	8

CHAPTER II.

SOURCES OF SUPPLY.

12. "Earth-gifts" by industry made the "raw materials" of commerce	10
13. Geological structure and chemical constituents as bearing upon these "earth-gifts"	11
14. Influence of climate and temperature upon natural products. Floral zones, with their special characteristics	12

PARS.	PAGE
15. Characteristic animals. Food the link between vegetable and animal life	14
16. Position of England as a commercial country	15
17. Results to the whole population of our power of interchanging products widely	15
18. Intelligence working with nature as the active factor of production	16

CHAPTER III.

DIVISION OF LABOUR.

19. The advantages of divisions of labour	18
20. Meaning of "advancement" of products, with the mechanism of industrial and commercial life	19
21. Exchange of labour for the requisites of life, in form of wages	20
22. Intellectual labours as bearing upon commerce	21
23. Relation of the bodily organs to divisions of labour	22
24. Scientific classification of workers	23

CHAPTER IV.

RURAL OCCUPATIONS.

25. The distribution of industry dependent upon physical conditions	25
26. Town pursuits consequent upon country preparation and provision	25
27. England now more manufacturing than agricultural; multifold divisions of labour	26
28. The variety of rural occupations	27
29. The vegetation of Central and Eastern England	28
30. Maritime industry in relation to commerce. The service of science to mariners	29
31. Mining in relation to town and rural pursuits. Distribution of mining industries	30
32. Inter-dependence of agricultural, mining, and manufacturing pursuits	30
33. Our obligations to the soil	31

CHAPTER V.

TOWN PURSUITS, MARKETS, AND TRADE-CENTRES.

PARS	PAGE
34. Complexity and localisation of town pursuits	33
35. Circulation of commodities between town and country and in the larger cities	34
36. Extension of commercial activity—Continental, Colonial, and Foreign	34
37. Investigation of wholesale and retail trades	34
38. Nearly all climatic zones may contribute to supply the stock of a single shop or store	35
39. Aid rendered for such supply by merchants and mariners	37
40. The growth of commerce exemplified in the history of clothing .	37
41. Necessity of central meeting-places and markets. Order in storage	39
42. Definition of markets, entrepôts, and emporiums. Seaports in this respect	40
43. Great cities work to smaller ones, and circle distributes to circle. Classification of towns	41
44. Historical cities which have led the world's commerce	42
45. The world-wide influence yet inter-dependence of markets . . .	43
46. England's ascendancy as due to machinery	43
47. English industrial and commercial towns having populations of over one hundred thousand	44
48. Mental and moral development coincident with that of industry and trade	44

CHAPTER VI.

GREAT CITIES AND CAPITALS.

49. Commercial position of London as a port and as the Metropolis. Comparison with other cities	46
50. Representatives of all trades congregate in London	47
51. London markets	47
52. Although a "market of markets," London is not technically an "in-and-out" port	49
53. Aspect of the river Thames	50
54. View of the London Docks	50
55. Details of commercial business. Insurance. Lloyd's. Banking. Systems of credit	51
56. Commercial laws. View of the streets of the Metropolis. The Bank of England	52

CHAPTER VII.

INTERNAL TRADE.

PARS.	PAGE
57. Approachability from all sides the chief feature of a commercial centre	55
58. The old highroads of England	55
59. Internal waterways and their utility	56
60. English coasting-trade. Natural gravitation or ebb and flow of goods to or from centres. The seaports.	58
61. The railways radiating from our Metropolis. Their relation to industry and trade	60
62. Comparison with Belgian and Dutch systems of communication	62

CHAPTER VIII.

EXTERNAL TRADE.

63. The outlets from our Metropolis.	64
64. The position of Liverpool and Glasgow among British ports	65
65. Classification of British ports	66
66. Analogies and contrasts between Ireland and Holland and Denmark	67
67. Classification of commercial outlets	69
68. Advantages of an "in-and-out" port	69
69. Relative progress of English ports	70

CHAPTER IX.

*EBB AND FLOW, WITH CIRCULATION OF
MERCHANDISE.*

70. Commercial circulation necessary both to production and to distribution	72
71. Produce or raw materials flowing in ; finished goods or specie flowing out. These movements continuous	73
72. Money or cash equivalents	74
73. Universality of the "medium of exchange," with illustrations	74
74. Replenishment of "stock in hand"	75
75. The effect of commercial activity from abroad upon "passive" populations	76

CHAPTER X.

COMPETITION AND CO-OPERATION.

PARS.	PAGE
76. Competition inevitable, and most severe between members of similar trades; develops into an intellectual conflict . . .	77
77. Consideration of international competition . . .	78
78. Competition stimulates intelligence and invention . . .	79
79. England's progress excites foreign emulation . . .	80
80. Increased intellectual culture and its influence upon material progress	81

CHAPTER XI.

MIGRATIONS AT HOME AND EMIGRATION ABROAD.

81. Causes of industrial migrations	83
82. Consideration of the above; special industries lead to special adaptations	84
83. Congregation or dispersion of labourers in relation to the means of subsistence	84
84. Geological structure and climate in relation to industrial migrations	86
85. Counterpart industries in England and Europe	87
86. Migration, if extensive, merges into emigration. The laws seemingly controlling emigration	88
87. The "tide" of emigration	89
88. America and the British colonies as emigration fields.	90
89. Classification of our colonies	91
90. India. The value of our several colonies to emigrants	93
91. The importance of colonial emigration	94

CHAPTER XII.

COMMERCIAL SITE OF THE UNITED KINGDOM.

92. Actual and relative position of the United Kingdom. Greater Britain	95
93. Structure of the English south coast analogous to that of Northern France	95
94. Our principal industries in close conformity with physical conditions	96
95. Unique commercial position of the United Kingdom	97
96. Colonial and foreign commerce. "Trade follows the flag"	98

CHAPTER XIII.

OUR GREAT OCEANIC COMMUNICATIONS.

PARS	PAGE
97. The mercantile marine of England. Considerations of speed .	101
98. "Breaking bulk" a disadvantage to international transport .	102
99. Ubiquity of the British flag	102
100. Protection for the merchant service. The navy. Coaling-stations. Store depôts	103
101. Classification of the great ocean highways. The American lines	104
102. The eastern lines <i>viâ</i> the Suez Canal and the Cape	106
103. The western route <i>viâ</i> Cape Horn	108
104. The West Indian line. The Panama Canal. England the carrier of the world	108

CHAPTER XIV.

RAILWAY THOROUGHFARES AND TRADE-FUNCTIONS.

105. Commercial activity developed by the extension of railways .	110
106. Comparisons between the railway systems of England, the European continent, and America	111
107. International thoroughfares	112
108. The eastward spread of railways in Europe and Asia . . .	113
109. The great west to east European lines	113
110. The north to south railways	115
111. The national and international waterways of Europe . . .	115
112. American land and water transit	116
113. African, Asiatic, and Australian means of communication .	118
114. The cost of haulage in relation to the introduction of railways .	118

CHAPTER XV.

IMPORTING AND EXPORTING.

115. National interchange necessitates importing and exporting .	120
116. Imports and exports are measured in money. Laws of interchange	121
117. Adjustments of the differences between the value of imports and that of exports, with illustrations	122
118. Settlements in bullion or specie	123

PARS.	PAGE
119 Character of British imports and exports. Our annual "turn-over"	124
120. England's principal customers	126
121. International profits are not monopolised, but are shared beneficially by all	127

CHAPTER XVI.

A STUDENT'S REQUIREMENTS FOR BUSINESS.

122 Greater range of commercial knowledge now necessary	129
123 Trade statistics. Tests of their fluctuations	130
124. Consuls and their duties	132
125. Adaptation of goods to the requirements of customers imperative	133
126. Effect upon commerce if these requirements are neglected	134

CHAPTER XVII.

NEW OPENINGS FOR TRADE.

127. New markets. Definitions and illustrations Where to be sought	136
128. Real benefit of new foreign markets	137
129. Markets are sometimes lost through neglect	138
130. Canada and Australia as new markets	140
131. Capabilities of Cape Colony and Central Africa for additional trade	143
132. India and Burmah as markets to be opened up	145
133. China and Thibet as markets. Countries of the third, fourth, and fifth order as markets. Deductions	146

CHAPTER XVIII.

FELLOW-TRADERS.

134. Effect of climate upon industrial energy	149
135. The course of commercial movements governed by physical conditions	150

PARS.	PAGE
136. Our customers and our competitors. Competition at home as well as in foreign markets	152
137. England's customers	153
138. The "course" of British trade	154
139. Proportionate imports and exports, in tabulated form	155
140. Our rivals in foreign markets	156
141. Commercial working of competition	157
142. Review and inferences	157

CHAPTER XIX.

RIVALS IN BUSINESS.

143. Germany. Physical conditions for commerce. River systems	159
144. Gravitation of merchandise to natural centres	161
145. Industrial activity indicated by physical features	161
146. Manufacturing area. Analogy with England	163
147. Introduction of railways	163
148. Germany as a commercial rival of England	164
149. German industries and interchange	165
150. German markets, entrepôts, and emporiums	167
151. Southern Germany	168
152. Danubian trade	168
153. International transit.	170
154. Cheapness an ultimate test	170
155. Commerce as a science	171

CHAPTER XX.

COMMERCIAL FACILITIES.

156. Standards of value as aids to exchange. The English pound sterling	174
157. Foreign standards	175
158. Weights and measures	178
159. Scientific determination of standards	179
160. The metric system	180
161. Varieties and anomalies of standards	180
162. Securities for commerce. The "forces." Banking. Insurance	181
163. Rapid correspondence. Post. Telegraph. Telephone	182
164. Intelligence the chief factor of commercial advancement	184

CHAPTER XXI.

*STUDIES OF THE UNITED KINGDOM—A KEY TO OUR
HOME TRADE.*

PARS.	PAGE
165. Physical advantages of the British Isles. Coast-line and harbours	187
166. Amenities of British latitudes. Freedom from climatic extremes	189
167. Means of communication. Railways and waterways	190
168. National industries determined by physical features. Gravitation of products seawards	192
169. English ports and manufacturing centres	194
170. WALES. Physical, industrial, and commercial characteristics	195
171. SCOTLAND. Highlands and Lowlands	198
172. Natural aspects in relation to industrial and commercial activity	198
173. Ports and centres of industry. Railway communication	200
174. IRELAND. Distinctive features.	201
175. Commercial and industrial centres. Canals	202

CHAPTER XXII.

STUDIES OF THE UNITED KINGDOM—(Continued).

176. Home trade	204
177. Constituents and localisation of ENGLAND's mineral resources	204
178. Agricultural regions and local produce	206
179. Importance of the English fisheries	207
180. Intercommunications	208
181. WALES. Resources and industries	208
182. Mineral resources of SCOTLAND	209
183. Agricultural resources and fisheries. Means of communication	210
184. Mineral resources of IRELAND	211
185. Agricultural resources and fisheries	212
186. Means of communication	213

CHAPTER XXIII.

STUDIES OF THE UNITED KINGDOM—(Concluded).

187. ENGLAND Factors of commercial activity	215
188. Agents engaged in external trade ; their range of knowledge	216
189. Technicalities of commerce	217

PARS.	PAGE
190. Nomenclature of ports. Food products "entered inwards"	219
191. Reasons determining the ports of arrival	220
192. Nature of British exports and imports	222
193. Liners, coasters, and "seeking" vessels. General cargoes	223
194. SCOTLAND. Supplies coming through England.	224
195. Influence on northern industry of climate and soil. Seafaring.	225
196. Contrast with southern industries and trade	226
197. East and west coast trades determined by geographical position	228
198. IRELAND. Comparison with Great Britain	228
199. Industries of Ulster	229
200. Irish agriculture and commerce	230
201. Gravitation centres	230
202. Smallness of foreign trade	230
203. Hopeful commercial prospects	231

CHAPTER XXIV.

NATURAL TRADE-DIVISIONS OF EUROPE.

204. Distinctions between national and natural trade-areas	234
205. Characteristics of the Baltic trade	235
206. " " Black Sea trade	237
207. " " Danube trade	238
208. " " Mediterranean trade	239
209. " " General trade	240
210. " " Norwegian and White Sea trades	241
211. The various trade-areas of Europe as determined by limits of equal seasonal heat	242
212. The alimentary and industrial products of the vegetable king- dom according to the same	243

CHAPTER XXV.

NATURAL TRADE-DIVISIONS OF ENGLAND.

213. The natural divisions of England as defined by physical features	252
214. Industries as indicated and influenced by physical features	255
215. The "commercial activity of England" exemplified by refer- ence to a natural area	257

CHAPTER XXVI.

NATURAL TRADE-DIVISIONS OF ASIA, AFRICA,
AMERICA, AND AUSTRALIA.

PARS.	PAGE
216. Characteristics of the Levant trade	253
217. ,, ,, Red Sea trade	259
218. ,, ,, Persian Gulf trade	259
219. ,, ,, Indian trade	259
220. ,, ,, Straits and East Indian trade	260
221. ,, ,, China trade, the Japanese and North and Central Asian trades	260
222. The latitudes and isotherms of Asia	260
223. The trade-areas of Africa	261
224. The trades included between the latitudes and isotherms of Africa	262
225. The trade-divisions of North America	263
226. The latitudes and isotherms of North America in relation to the distribution of vegetable raw materials	264
227. The South American and West Coast natural trade-areas	264
228. The latitudes and isotherms of South America	265
229. Africa and South America as fields for commercial enterprise	265
230. The colonial trade	265
231. The latitudes and isotherms of Australia	265
232. The West Indian trade-area	266
233. Chart of the distribution of "raw produce" as shown by lati- tude and by lines of equal seasonal heat	266

CHAPTER XXVII.

ALIMENTARY AND INDUSTRIAL ESSENTIALS, WITH
AUXILIARY PRODUCTS OF THE MERCANTILE
WORLD.

234. Europe	270
235. Asia	284
236. Africa	294
237. America	301
238. Australasia	310

	PAGE
Questions on each Chapter in collected form	315-325
Sets of Questions, issued by the Society of Arts in London on Commercial History and Commercial Geography, from 1875-1881.	326-337
Accountants' Work in Germany, Questions on, by Dr. Kar- marsch	337-344
Instructions for Commercial Students, from the "Questionnaire," Bordeaux	344-345
INDEX	346-354

THE GOLDEN GATES OF TRADE.

CHAPTER I.

NECESSARIES, CONVENIENCES, COMFORTS, AND LUXURIES.

Par. 1. Examination and classification of wants.—2. Increase of the population of England since 1800.—3. Supplies drawn from nature by the application of industry and intelligence.—4. Explanation of barter and exchange growing into commerce.—5. Town harvests and country harvests, with the respective labourers.—6. Business of the merchant or interchanging agent.—7. Liability of derangement in ordinary business through outside influences.—8. Industrial divisions among our population.—9. Definition of a raw product and an “ennobled” product.—10. Law of the growth of towns, cities, and trade-centres.—11. Real wants and acquired wants.

1. The main wants of man may be grouped into *three essential classes*, comprising food, the **means of warmth**, and the **means of shelter and rest**.

We must eat and drink for our growth, and for the repair of our daily bodily waste. We must clothe ourselves, for “warmth is a condition of life, as cold is of death.” We must sleep to restore vigour and activity to the jaded organs. Food generates heat, which we retain by clothing, and add to by firing or fuel, while we protect ourselves from external cold by housing or shelter. Clothing and shelter further supply

the means of quiet and refreshing rest. Let any one of these conditions fail, we should soon die.

Food, clothing, fuel, and shelter thus constitute the prime "necessaries of life."

Man, however, is not content simply to eat and drink, dress and sleep. He desires change of food and of clothing; he has tastes for the beautiful, and aspires to intellectual pleasures. Reason teaches him that these desires are essential to his well-being, if not to his existence. These lead to **conveniences, comforts, and luxuries**, many of which in course of time, from custom or habit, well described as our "second nature," because so far parts of our daily being, *rank with the necessities or semi-necessaries of life*.

The classes of necessities remain the same through all time; but the constituents which form these classes are always varying and always being added to. Our forefathers flourished without that "coffee which makes the politician wise;" they were joyous without "the cup that cheers yet not inebriates;" sugar and butter were hardly known until the cultivation of the sugar plantations of the West Indies, and until "root crops" were introduced for cattle. Our fruits, vegetables, and poultry are, with few exceptions, "exotics."

Suppose our country to be suddenly deprived of these constituents of food, it would mean lowered vitality to all, and death to many. In other words, food substances once unknown, then rarities, have grown from use into "necessaries of life."

In like manner with our **conveniences, comforts, luxuries, and intellectual enjoyments**; were we to be deprived of our coal, gas, glass, pictures, newspapers, and books, the void would be so deep and drear that life would lose its charm. *Custom has made these things necessary to our well-being.*

A dweller in the Far West of America, or in the Bush of Australia or New Zealand, is *near* to his maize or other grain, his fruits and kitchen vegetables, his flocks and herds, and his capacious *kraal*. He is thus, day by day, able to satisfy the food-wants of his family. How different the busy citizen of

London, Manchester, Birmingham, and other large towns! He has no fields of corn, no orchards nor pastures at his door; *these are often on the other side of the globe.* Yet dwellers in cities and towns have, generation after generation, to be regularly fed.

2. During the current century the population of our small islands has multiplied threefold; that is to say, where there was "one people of England" in 1800, there are three such peoples now, and all this number—over thirty millions—want necessities, conveniences, comforts, luxuries, and, more or less, intellectual enjoyments.

For two, or, on an average, three meals a day, a continuous catering throughout the year is required for from sixty to ninety millions of meals. Imagine what this means for food alone! *The entire produce of twenty-seven thousand acres of land, it is computed, does not more than suffice for the daily requirements of man and beast in London alone.*

3. Whence are all kinds of supplies drawn? Primarily from nature. Fuel, building-stones, and metallic ores come from *the bosom of the earth*; herbage, grain, and fruits from *the soil*; animals from *the surface* whence they draw their means of sustenance. Yet nature does not provide for us spontaneously. Minerals and metals are there; grass and trees grow, birds and beasts feed independently of man; but minerals and metals are useless until labour and industry are applied to raise, transport, and reduce them; vegetation, unless care be bestowed, grows wild or rank, and cattle must be reclaimed before being of service. Hence skilled labour or intelligent industry among a people rises to the level of a national want, based upon moral science, since it aims solely or chiefly to promote human happiness.

4. Something further is, however, yet required. Let labour be expended in a coal-mine; the labourer in the dark cannot live on coal. Let the husbandman plough, sow, reap, thresh, and grind; still, the produce of his labour, that is, his crop, or the bread which it yields, cannot warm or shelter him. But

bring these two labourers together ; let the farmer exchange his corn, flour, or bread for coal, and the miner his coal for corn, then the latter may be fed and the former warmed.

Each man lives by his own labour, though commonly through the intervention of a third labourer, who devotes himself to the business of “**exchange**.” The farmer needs bread to eat, and the miner coals for warmth and cooking. Each, therefore, must produce more than enough to supply his own wants, in order to have a surplus for exchange. Without labour neither the farmer nor the miner would have any produce, certainly any surplus ; consequently it is by his own labour, not by the labour of others, that each is warmed and fed.

5. **Commerce** is a term applied to the **exchange** or interchange of **merchandise** ; that is, of commodities or articles of traffic which minister to the well-being of mankind. Commerce generally refers to dealings in the gross or on a large scale ; but inasmuch as the greater contains the less, it comprises the sum of the retail or individual transactions of trade. As the results of labour are widely interchangeable, each industrious citizen of any civilised community is able, by his own labour, or by the stored labour of others, to obtain in exchange supplies of food, clothing, fuel, medicine, and other useful commodities, and also to gratify his tastes with the pleasures of art and literature.

Among our population **field-work** attracts many labourers, **mining** others, and the **industrial pursuits** of towns more than either. By the interchange of country work with town work, the balance of requirements is adjusted. The larger the population on a given area, the greater must be the required supply of food and other necessary commodities.

In the case of England, the home produce alone would not satisfy us with food or provide materials for manufacture for any length of time ; therefore there must be outside means of meeting wants.

6. The **interchanger** or **merchant**, by his *special knowledge*, brings about an interchange of all the surplus produce of one

country, for the similarly valuable produce of other countries. In England, which is a manufacturing rather than an agricultural country, this produce must be chiefly that of town harvests, which are manufactures; for our rural or country harvests do not admit of a great surplus.

Besides the general interchange of commodities, the merchant's business comprises that of storing or providing beforehand such an accumulation of the necessaries and comforts of life, that even the fear of scarcity shall not at any time arise.

7. Local occurrences may, however, interfere with the machinery of business, or course of interchange, leading to serious consequences, especially to town populations. Country people, as a rule, have food-stocks in hand or at their doors, but towns are dependent upon extraneous supplies. Distress befell New York during the "blizzard" of 1888. The usual stores of food had given assurance that the adjustment of supply to demand would be kept up daily; but as soon as the source of supply was interrupted by the storm, ordinary farm produce, such as milk, butter, and eggs, owing to the fear of greater scarcity, rose to famine prices. Under such circumstances the wealthy had to economise, and the improvident and penniless to suffer want, until relief arrived. Any great convulsion of nature deranges "the best-laid schemes o' mice and men." Venezuela, for instance, is "an excellent place for business, if it would only stand still;" and Chili is famed for copper and earthquakes.

8. How, then, does the work of the different members of our home population fit in, so that each man ministers to the wants of his fellow? Since the produce of the land for the time being is limited, the share of each labourer, when the number of labourers increases, must be by so much the less. As soon as labourers begin to interfere with or crowd one another *the surplus of labour tends to dwindle away*, for the wage sufficient to supply the needs of one labourer would be of little use if divided between two or three men, whose

idle overtime, on the other hand, would not be an available exchange for the necessities of life. Hence, when the number of labourers increases, *all* cannot remain to plough and sow, mow and reap. Farmers' families will then break up, and rural labourers be drafted to other occupations or migrate to the towns.

The same law holds good in mining. Mines and quarries are not innumerable; they can employ only a certain number and class of labourers, and when this number is exceeded the surplus tends to draft into other fields of industry.

Where are these fields to be found? Observe that while our rural population tends to diminish rather than increase, and our miners keep within defined bounds, the general population and wealth of England augment rapidly. We are thrown, therefore, upon another division of labourers, and upon **urban industries**, to explain the phenomenon. These industries work up, by combination or otherwise, the earth-gifts of nature, obtained by the *agriculturist*, the *miner*, or the *fisherman*, into **new products**, or transform old products in endless variety.

9. EVERY ALTERED FORM ASSUMED BY AN EARTH-GIFT, THROUGH LABOUR, CONSTITUTES IN ONE SENSE A NEW PRODUCT; and its value in exchange becomes thereby enhanced, though each change is really a successive stage of an old product in its progress towards its final form.

Thus, industry and skill blend the natural product, sand, with the artificial one, potash, in the manufacture of glass. The artist designs the form and adds colour; the artificer fabricates the substance and develops the beauty of design; the engraver, lastly, embellishes the surface with graceful figures. Through all these processes *the material is essentially the same*, but the product advances in value in proportion to the labour bestowed upon it by each worker in turn. The ultimate possessor of the glass should, therefore, have such a surplus from his own productive labour as will enable him to repay the producer of the raw materials, plus the industry and skill that blended

them, plus the manual and intellectual labours of the artist, artificer, and engraver.

10. This illustration from the glass manufacture—only one of the numberless phases of industrial life—shows how and why manufactures absorb the bulk of the population and the masses concentrate in towns and cities. This concentration occurs on the spots most favourable to each special industry, decided either by proximity to the fields of raw materials, or by convenience of situation for interchange of the finished products for general objects of desire. Thus, during the current century large towns have sprung up on our coal-fields and important rivers, and have increased at junctions or transit-points of inter-communication.

London, on the waterway of the Thames, has grown from a population of less than a million in 1801 to between four and five millions at the present time. Some provincial towns have expanded in even a more remarkable degree, and others, of great industrial importance, are new creations of the period. The densely-peopled town of Middlesborough-on-Tees, for example—the great and active site of the “Bessemer convertors”—now lurid with flame and smoke, was a hundred years since barren waste, abandoned to the hill fox and curlew. Wherever and whenever there has been an industrial or commercial opening, labourers have flocked to the spot to work.

As with individuals so with the population as a whole, *the tendency is to locate where labour can be exchanged to the best advantage*. Cities are the centres, therefore, of present civilisation and of material progress simply by reason of the endless variety of occupations there; the mere cultivation of the soil, which bestows ample reward on a little labour, could not yield sufficient employment to a large and increasing population. In 1801 the urban or town population was three millions, one-third of the entire people of the country. In 1881 this proportion had become reversed, the towns containing seventeen and a half millions, or two-thirds of the people, leaving only one-third in rural parts.

11. We live in a country where the people spread over the land and crowd in the cities, ever moving to and fro, all intent upon farming, weaving, mining, building, or in manifold ways seeking to satisfy human wants. Few except the aged and feeble seem to have little to do; even the young are busy in preparations for the active pursuits of after-life. The picture is at first perplexing. How do these multitudes of labourers so adjust their activity to the indefinitely varying wants of one another, that, without any system of castes or legislative mandates, the numerous divisions of labour fit into each other, and co-operate to supply these wants, so exactly that there shall be neither excess nor deficiency in any direction? First, association plays its part. Children follow the occupation or the trades with which their parents are allied, farmers becoming farmers, and miners, miners. Real or fancied gifts for other pursuits, however, divert many from such hereditary course, while any tendency to overcrowd, and thus impair the advantages of an industry, is lessened by the self-acting drift of the most energetic producers into more profitable divisions of labour that is, into pursuits which supply more urgent wants. Action, in this view, as Laveleye says, is the pursuit of objects desired, including all that is good for the advancement of the individual and of the human race, whether it be necessary, useful, or simply agreeable. Wants create desire; desire creates action. Wants may, however, be the result merely of habit, and baneful rather than real and beneficial. Allowing, for example, all the good derived from alcohol, so far as it cheers, and, as a drug, saves life; all the soothing influences of tobacco and opium; all the grace of adornment given by precious gems, and we must still fain admit an appalling diversion of productive labour to detrimental purposes which might otherwise be directed to supply the real wants of our race and promote human progress. Amid these scenes of activity we see the dealer or merchant everywhere moving. To the merchant the knowledge of wants is essential. He must know where they are felt and

the sources whence they may be supplied. With such knowledge he transfers commodities from places where they abound to places where they are scarce, to the benefit of the producers at a distance apart without interruption to their industries, and finds his own advantage in the increased value which the transfer gives to the produce.

QUESTIONS.

Pars.

- 1.—1. Explain why food, the means of warmth, and the means of rest are regarded as “necessaries of life.” In what respects are these necessities permanent or otherwise?
- 3 and 4.—2. How are the essential wants of mankind supplied? Distinguish between the part done *for* man by nature and the part done *by* man for himself.
- 5, 8, and 11.—3. What effects have the position and natural resources of a country upon the distribution of the workers?
- 6 and 7.—4. Describe the ordinary pursuits of a merchant, and some of the derangements to which he is subject.
- 9 and 10.—5. Show how skilled labour, applied at successive stages to the simplest “earth-gift,” may convert it into a series of new products.

CHAPTER II.

SOURCES OF SUPPLY.

Par. 12. "Earth-gifts" by industry made the "raw materials" of commerce.—13. Geological structure and chemical constituents as bearing upon these "earth-gifts."—14. Influence of climate and temperature upon natural products. Floral zones, with their special characteristics.—15. Characteristic animals. Food the link between vegetable and animal life.—16. Position of England as a commercial country.—17. Results to the whole population of our power of interchanging products widely.—18. Intelligence working with nature as the active factor of production.

12. The supplies we obtain direct from the earth, the water, and the air are the free gifts of nature. Hence, plants and animals, minerals and metals, the fish in the sea and the birds in the air, are termed *natural resources*. Upon these resources we expend labour and skill in order to fit them for our service, for then only do they become of use and acquire value in exchange.

By intelligent industry these resources can be increased in their yield, and as such, or as native elements of wealth, they are termed in commercial language **raw produce**, or "**raw materials**." The coal and iron of England, the granite of Scotland, and the vines of France are among the "raw materials" of these several countries.

Were England dependent solely on the capabilities of her soil for food produce, or for plants yielding a fibre suitable for spinning and weaving, the population would soon be impoverished, because it largely exceeds the power of the land to yield an adequate supply.

13. A study of nature reveals laws which fill us with awe, and yet with pleasure, in their very simplicity; but these laws must be read aright by every student, to enable him to grasp the reason of certain produce coming mainly from certain parts of the earth, and other produce being confined almost to one part.

In the inorganic or mineral kingdom there is a structure and an order, called the composition and superposition of rocks, which hardly vary. Different layers or strata of rocks contain the various metallic and mineral treasures that are mined or excavated for man's use.

These strata somewhat resemble the coats of an onion, except that each coat does not lie evenly over the whole world, for by volcanic action some of the lower rocks and all that lie above them have been tilted up, in some places even on edge, and thus the varied physical aspects of a country are produced. To investigate the mineral resources of the world we must base our studies on geological principles, remembering that we cannot reform or fashion the relics of bygone periods of time.

In the organic or living kingdom other influences have to be considered; plants want "soil, sunshine, and showers;" in other words, plant-growth depends upon mineral food, light, heat, and moisture. Plants in their turn supply food for animals. The conditions, therefore, of soil, climate, and temperature, which vary all over the world, have to be studied and examined.

Soil is dependent in a great measure on the rocks lying immediately underneath. The softer a rock the easier it crumbles, and the harder it is the greater difficulty there is in forming a soil. Thus, a hard granite offers great resistance to the elements, while a soft sandstone readily "weathers" and disintegrates.

Every shower of rain falling on the hills and running into the streams carries with it some particles of dirt or rock, and these in their course accumulate as sediment or "alluvial

deposit" in the low or flat lands, and contribute to a deeper soil.

Again, the chemical constituents of each crop largely agree with the chemical constituents of the soil of which it is composed, so that a skilful farmer knowing the "nature" of his soil, and also the "nature" of his crop, can adjust the one to the other and obtain a better yield. In other words, crops flourish most where their mineral food abounds.

14. From the poles to the equator the globe is divided into climatic zones, distinguished by their special flora or botanical produce. These zones are not sharply defined by parallels of latitude, since climate is the resultant of other conditions besides those of astronomical position.

The climate of the land differs from that of the sea; of mountains from that of valleys and plains; of continents from that of islands. Climate is also influenced by the prevalent winds, by ocean currents, and generally by vertical or horizontal contour of the surface.

Each zone, likewise, blends so gradually with the adjoining zones that its variations are hardly perceptible near at hand; but, as with the colours of the rainbow, which transfuse, while at a distance, they stand out distinct, so the floral zones, viewed from standpoints separated by a few degrees of latitude, appear well defined.

The limits or boundaries of these zones are determined and traced on our maps by lines of mean annual heat encircling the earth, hence termed *isothermal lines*, following all the local deflections of temperature, north and south, from whatever physical cause.

The boreal zone has its special vegetation of mosses, lichens, saxifrages, berries, oats, barley, and rye; the temperate zone, its peas, beans, roots, hops, oats, barley, rye, and wheat; this zone, characterised by its extent of pastures, hop-gardens, and barley-fields, has also a distinctive title in the "beer and butter region." The warm-temperate zone, or region of "wine and oil," is characterised by its growth of the vine,

olive, orange, lemon, citron, pomegranate, tea, wheat, maize, and rice; the *sub-tropical zone*, by dates, figs, the vine, sugar-cane, wheat, and maize; the *tropical zone* is characterised by coffee, coco-nut, cacao, sago, palm, figs, arrowroot, and spices; and the *equatorial* by bananas, plantains, coco-nut, &c.

We thus trace the division of the globe into climatic zones, the produce of each merging into that of another; for instance, wheat ripens as a *summer* crop in the colder belts, and as a *winter* crop in the warmer. Curious chances, as they seem, are sometimes at work to carry the flora of one zone to another. J. E. Taylor says: "A number of fruits and seeds are brought over to this country and France in the fleeces imported from other climes. In some of the Gloucestershire valleys, where foreign wool is washed and worked, we find plants from the Cape and South America that have come over as seeds in the wool."

Temperature varies according to position; for example, in Western Europe or Western England, places exposed to the influences of the Atlantic and Gulf Stream are much warmer than others exposed to the eastern winds; while, on the contrary, those in the tropics open to the sea-breezes are cooler than places inland, where there is nothing to temper the wind blowing over the heated surface of the land.

The influence of elevation upon temperature is observable on mountain slopes, those facing the winds from the poles being as a rule the coldest, and those facing the heated tropics the warmest. There is, however, a striking exception in the Himalayas, where the "snow-line" on the northern slope is some 3000 feet higher than on the southern. Two local causes explain the exception. The range intercepts the southerly winds blowing over the Indian Ocean, and saturated with water; these roll over the mountain-crests comparatively dry, having discharged their moisture on the Indian plains; while the winds from the north, heated by the extreme or continental summer temperature of the vast plateaux of Central Asia, bring no moisture to condense into snow or rain.

Again, an insular climate is always more equable than a continental one on the same latitude, since the surrounding sea neither absorbs nor radiates the solar heat so readily as a large expanse of land.

If the earth were homogeneous, that is, say, solely a globe of water, or if there were no variety of land or sea, hill or plain, then temperature would be determined only by latitude, and the isothermal lines, lines of equal temperature, would run parallel to the equator. As this is not the case, these lines vary in direction all over the globe, rising farther north here, descending farther south there, as the temperature is affected by physical features, contour, or current, whether aerial or marine.

In the tropics a lofty mountain whose summit is crowned with snow well represents the grades of temperature, or climatic zones, from the equator to the poles. The traveller, ascending from the exuberant vegetation at the base, passes through the varied flora of each zone until he leaves trees behind him, and crossing the interval of stunted growth, enters the sterile regions of eternal snow. Compare this mountain with the earth, or consider the earth as two mountains with their bases joined at the equator, and it will be seen that the farther north we proceed the snow-line depresses, or, as it were, thrusts below the ground the various forms of vegetation, until in the polar regions the scantiest growth will not exist above the sea-level.

15. **Animals must follow their food ; hence food becomes the link between flora and fauna ;** and the useful animals are found in the greatest degree of development where plant-growth is specially cultivated. Yet *each zone has its characteristic fauna* ; the reindeer feeding on the lichens of the north is analogous to the horse or ass grazing on the pastures farther south, or the camel and zebra of the tropics.

Again, nature acclimatises animals to their zones. Those in the north, exposed to rigorous cold, are endowed with a thick furry coat, which not only gives warmth to the animals,

but furnishes man with a product ministering to his winter comfort; while farther south the animals chiefly develop in bulk and furnish a variety of meat food.

16. With means of transport and surplus produce for exchange, any country may secure changes of food, varieties of clothing, and other commodities of industrial value from any part of the world where they abound. *In England we dispose of all our "country harvest" in exchange for our own "town harvest."* Even when we have used up the available produce of the country there remains a vast number of town people to be provided with food and other necessities for many months of the year. Hence there must always be ready on hand a large quantity or surplus of the town harvest, inasmuch as there is no demand for it at home, or there is no means of interchanging, *for the surplus country harvest has already been parted with, and town work goes on without intermission.* Therefore, unless there be outside "markets," our town harvests must languish, exactly as a field of wheat would decay if not wanted; in fact, it would not be harvested.

17. Our surplus of interchangeable commodities has enabled us to build a vast fleet of vessels suitable for carrying our own supplies to other countries, and returning laden with produce which it would be impossible for England herself to yield.

Thus we find the baker, the confectioner, the manufacturer of clothing, the doctor, and the chemist all employing the commercial man—the interchanger—either directly or indirectly, to dispose of the surplus of their labour production, and intimating what they wish to receive in exchange.

The baker or miller desires various kinds of corn or flour: oats from Russia, Scandinavia, or Canada; wheat and barley from Russia, Germany, Austro-Hungary, Belgium, America, India, and Australia; and maize from Southern Europe, South America, and Southern North America. The confectioner desires the fruits of all zones, the rice of the tropics, and the

spices of the Equatorial East Indies. The **manufacturer** asks for the cotton of America and the Indies; the hemp and flax of Russia, Italy, the Netherlands, Canada, and Australasia; the jute of Hindostan; the wool of Saxony, Spain, Asia Minor, Thibet, Cashmere, Australia, the Cape, La Plata, and Chili-Peru.

The **doctor** and **chemist** search for the drugs and spices of the tropics, the dyes of Central and South America, and the essences of Asia Minor and Persia; while the **savant** learns the botany, the mineralogy, the zoology, and the literature of other lands, thus adding in many ways to the well-being of his fellow-men; for it is to the **man of letters** and **science** that most of our chemical and other discoveries and an explanation of many of nature's apparent mysteries are due.

Besides these special cases, the variety of interchange is really inexhaustible; the **artist** can rejoice in the dyes, paints, and colours of the warm-temperate and tropical regions; the **sculptor** can exercise his art on the beautiful white Carrara marble of Italy; while the **invalid** or **convalescent** can be refreshed with the grapes of the wine countries, the pine-apples of the West Indies, the oranges of Spain, Italy, and Australia, or the bananas of the equator.

The "sources of supply," then, are endless, with the proviso that demand always means having something of commercial value to offer in exchange. As a consequence it is quite possible to accumulate in one city every variety of food or other produce obtainable from the whole world. The same shop may dispense the oat-cakes of the North, the rye-bread of Central Europe, the sweet wheat-flour loaf of our own country, the maize-food of the sub-tropics, or the rice-cakes, cassava-bread, and bread-fruit of the equator.

18. Not more striking than these wondrously varied earth-gifts are the varied powers of intelligence which constitute the capacity of man to understand and utilise them. **In proportion to the development of this capacity, so is a race more or less highly civilised.** The lowest savages live in a state of

almost utter ignorance of the beneficent provision beneath their feet. The North American Indians knew nothing of their exhaustless fields of copper, and, of course, nothing of its economic utility. Even Englishmen remained for many centuries unaware of the existence of their coal-beds, and, necessarily, of the manifold uses of coal. Ignorant men in civilised states still continue unconscious of the working of nature's laws, while the more advanced intellects around them have laid these laws bare, subjugated them to human will, and applied them as productive powers, through the agencies of steam, electricity, magnetism, and chemistry, and in the way of inventions, like those of the mariner's compass and gunpowder. Thus we observe how the merchant, who opens out the wide world to enterprise and makes nature's earth gifts known to mankind, claims, of right, to be one of the most active pioneers of civilisation.

QUESTIONS.

Pais.

- 13.—1. How are soils formed? Show how "crops flourish best where their mineral food abounds."
- 14.—2. Enumerate the climatic zones of the globe, and describe their distinctive vegetation. What physical causes render climate variable in the same latitudes?
- 15.—3. Show how animals are adapted to the zone they inhabit, and how those adaptations minister to the service of mankind.
16. and 17.—4. How far do home industries depend upon raw produce from abroad? Give examples from special arts.
- 18.—5. Prove that man's material progress is commensurate with his knowledge and his sense of inter-dependence.

CHAPTER III.

DIVISION OF LABOUR.

Par. 19. The advantages of divisions of labour.—20. Meaning of “advancement” of products, with the mechanism of industrial and commercial life.—21 Exchange of labour for the requisites of life, in form of wages.—22. Intellectual labours as bearing upon commerce.—23. Relation of the bodily organs to divisions of labour.—24. Scientific classification of workers.

19. Without “division of labour” industrial activity would practically cease. Were every one to aim at dealing in bread “because men must eat,” who would sow the grain or prepare the flour?

If a baker or a shoemaker had to attend to every item that entered into his business, what sort of a commodity would either turn out? Suppose the shoemaker had to rear cattle, kill, skin, and dress hides, prepare nails, forge his own tools, and then make his shoe, what chance would there be of his exchanging the result of his labour profitably?

“Division of labour” is necessary for perfecting the results of industrial life. Look at the mechanism of a watch; see the number of parts, some large, some small, but all working together in perfect harmony for one end. The big wheel could not accomplish the work by itself, nor could the little wheel; but by harmony in working and transmission of power from one part to another the wished-for result is attained.

So in industrial life the purpose is accomplished by “divisions of labour,” which have been handed down, may be, through many generations of workers in each craft; *but it is*

only gained by harmonious working, and by passing on still the effects of preceding work through all stages to the end.

Take, again, the example of the *shoemaker*. *The animal kingdom* in nature's domain provides the beast, which the *agriculturist* rears and feeds, and then exchanges with, perhaps the *butcher* for money. The *butcher* in turn slaughters the ox, and passes on the hide to the *tanner*, who dries, prepares, and tans the skin, and then, in the shape of leather, hands the result of his labour to the *shoemaker*. So through all the branches of industry, each labourer acts independently of the rest, and yet for common ends.

In this manner agricultural, mining, fishing, industrial, and commercial pursuits occupy and classify the population; "division of labour" being as essential to the whole work of production as to details. As states advance in well-being this system tends to minuter development, and prosperity, other things being equal, proceeds with a corresponding pace.

No one is free from reciprocity of service, and we thus establish the necessity for commerce.

20. Let us take the **raw product**, iron ore, and observe how it **acquires new properties** as it passes from hand to hand, and thus forms new products, or old products in a progressive and ascending order. Some labourers dig out the ore, while others transport it to the furnace where the raw product is smelted; and the final result of this "labour" is the conversion of the ore into "pig iron," a fresh value being attached to it by virtue of the labour expended. A further process converts this product into "cast" or into malleable iron, by means of the refinery or puddling and rolling mills.

Cast-iron is advanced a further stage by being transformed into steel through melting an exact proportion, of known composition, with malleable iron; or through elimination of part of the carbon and certain impurities by the Bessemer, Thomas and Gilchrist, or Siemens methods.

With the bar iron itself other workers appear, who by their skill, industry, and energy convert this product into

nails, anchors, steamships, locomotives, hardware, ironmongery, and a thousand other things, involving the use of fuel and the toil of many separate divisions of men. Steel *may also be further advanced*, and issue from the workshops as cutlery, steel implements, steamships, to the finest hair-spring of a lady's watch.

No one man could possibly do all this work. The majority of tools and machinery, furnaces and retorts, are likewise made from iron, and represent separate divisions of labour. Further, the conversion of the one product into the next stage higher requires greater intelligence and combination of power, involving the employment of agents, who have no direct association with this particular work. For instance, power is wanted to turn the lathes and other mechanical contrivances, and for this steam is used. To generate steam, coal is required; thus we invoke the aid of the *mine-owner* and the *miner*; of the *agriculturist* who rears the horses which haul away the coal; of the *carpenter* who turns out the waggon to carry the coal or iron, while possibly the *ship-owner* and *seafaring-man* assist by transporting the material to a distant site of industry; and *clerks* and *servants* exchange their labour, whether mental or manual, to facilitate the accomplishment of the purpose in view.

Such an example shows the necessity and convenience of "division of labour;" and, likewise, into how many ramifications one simple industry leads.

21. In each of the processes the labour of the worker is exchanged for that which he most desires. Thus the *common pitman* is satisfied to exchange his strength for food, clothing, shelter, and fuel; the *foreman* for the same things, with possibly a few comforts and luxuries added, such as better accommodation; and so on until we reach the *master*, who requires his share, coupled with the help perhaps of the man of science or the chemist, in their books, discoveries, and thought.

Were such raw materials as tea, coffee, sugar, or tobacco traced from their birthplace to their place of consumption here,

each would exhibit many "divisions of labour," but we should only go over the same ground. *The labourer is paid in money wages, but his real wages are the necessities and comforts of life for which he at once exchanges the money or nominal wages.* Thus our national, social, and domestic condition is based upon division of labour, accompanied by interchange; for no worker in the busy hive of industry is so self-dependent as to do without the services of his fellows.

22. Commerce has become a universal necessity, and the interchange of produce thus brought about benefits all concerned, blessing both him that gives and him that takes. As our material wants are more and more fully met, the leisure thus afforded us gives birth to higher wants, having no material exponent; hence new classes of labourers arise. Statesmen, philosophers, authors, clergymen, teachers, artists, musicians, doctors, soldiers, judges, do not produce commodities in the same sense as the smith, baker, brickmaker, and builder, yet their labour is often paid for at a very high rate. Are they not productive labourers? Though they do not handle any tool more powerful than a pen, if the results of productive labour are increased by their services (and they are mightily increased), then they rightly claim to be producers of the excess.

The light of wise legislation shed upon the laws of nature; knowledge gained from books, training to rectitude and industrial skill; the saving of life to industry, and the restoration to health; the refining influence of genius and art; defence against aggression of the evil-minded; and the administration of justice, are intellectual, and beyond measure more potent than physical factors and productive labour.

These intellectual labourers sell their services. Such services are therefore commodities, the name given to things bought and sold, and by so much they are also products, the labour and the product being one and the same, but not taking a concrete or material form. The value in exchange or the commercial value of a commodity is augmented in proportion

as the intellectual element enters into the work of production. The hair-spring of a watch contains less than a hundredth part of the iron in a large nail, while its value is more than a hundred times greater.

The verse of a poet is an imponderable quantity. Its value arises from the rarity of genius to produce it, and from its power to delight the world for ages. The barrow of clay, on the other hand, which taxes the strength of the navvy to wheel, when moulded and burnt into bricks is of little account, while its material elements always continue the same. The poet's thought may be imprinted numberless times, until the simple light vehicle through which it is conveyed to our minds mounts to many times the gross weight of the load of bricks, but the value remains in the expression of thought, not in the paper and ink.

We speak of the "creations" of the artist, because we compute the value apart from the canvas and paint. The sculptor chisels away the marble to reach the statue buried in the block, the value of the product increasing as the material decreases, for it is the gifted labour embodied in the stone that makes the product an object of desire.

Singers, actors, and dancers, in so far as they minister to our recreation and enjoyment and fit us better for our daily industrial duties, are productive labourers, since more is produced as a direct consequence of the means of healthful and cheerful change they place at our command.

23. These considerations of the nature and course of productive labour lead to further reflections. We observe that all labour is the outcome of muscle and mind; that is, of physical strength and intellect. But both the bodily and mental powers work through special organs; and the development of skill, whether in handicraft or art, resolves into the training of the special organs concerned to the most perfect exercise of their functions. We recognise this when we speak of operatives as "hands" and describe regiments as "foot." The development of the muscular organs, with little necessity

for brain-power, renders our "navvies" valued labourers both at home and abroad. The development of genius, on the other extreme, may be conjoined with feeble muscle. With our ironworkers the arms are developed; with our soldiery, police, postmen, and messengers, the organs of locomotion. In the higher branches of productive labour the organs of special sense come more directly into play. The senses of sight, hearing, smelling, tasting, and feeling are exalted by practice and training. The artist sees more in a landscape or picture than is visible to the uneducated eye; the musician hears harmonies in nature and sound to which the crowd is deaf; the chemist discerns, by the olfactory sense, perfumes and poisons which others would pronounce to be the same fragrance; tea, wine, and spirit tasters use the palate as the most unerring test of values; the finished perfection of the mechanism of the hand is displayed in the exquisite touch, whether of the artist or of delicate industrial skill. Practice makes perfect. The power which practice gives maintained for ages in ancient Egypt hereditary industrial castes which the laws and customs of the country could not otherwise have continued, while it caused special skill, descending in families, to be productive of works which gave fame to Egypt, and were coveted by the nations around.

24. The occupations of the industrial classes might, without much difficulty, be arranged on the lines of the organs and faculties chiefly conducive to their skill; but this is a system not usually followed. We speak of a soldier or military man, and the designation applies from the commander-in-chief down to the rank and file and the drummer-boy. So in needlemaking there are at least twenty-four grades of makers; of knife-makers there are twenty-seven grades, and of lacemakers twenty-eight. The grouping of occupations is a practical acknowledgment of the necessity for division of labour. Official authority has adopted the following scientific classification of the occupations of the people:—

Class I., *Andrici*, includes those persons who render direct

service to man and satisfy his intellectual, moral, and devotional wants.

Class II., **Oikici**, includes all those who are workers in dwellings and houses, whether in domestic offices, or as entertaining and performing personal offices for man.

Class III., **Agorici**, includes all persons who buy and sell, keep or lend money, houses, or goods of various kinds, or who are engaged in the conveyance of goods, animals, men, or messages.

Class IV., **Georgici**, includes all those who are engaged in raising products from the soil, whether possessing or working the land, and engaged in growing grains, fruits, grasses, animals, or other products; or those engaged about animals.

Class V., **Technici**, is a class of makers and artisans. It includes those who are engaged in art and mechanical productions; in textile fabrics and dress; those who work and deal in food, drinks, animal substances, vegetable substances, and minerals.

Class VI. includes labourers and other workers in undefined branches of labour, as also those who are of "no occupation;" that is, those who, for some reason or another, are unable or unwilling to labour.

QUESTIONS.

Pars.

- 19 and 20.—1. What is meant by "division of labour"? Give examples of the principle in the case of either the butcher, baker, shoemaker, or watchmaker, and also of the ironworker.
- 21.—2. Distinguish between the real and the nominal wages of labour.
- 22.—3. Show how intellectual labour aids in the work of production. Illustrate this as copiously as you can.
- 23.—4. Show how our physical endowments favour industrial skill.
- 24.—5. Classify labourers of as many kinds as you can, according to their occupations.

CHAPTER IV.

RURAL OCCUPATIONS.

Par. 25. The distribution of industry dependent upon physical conditions.—26. Town pursuits consequent upon country preparation and provision.—27. England now more manufacturing than agricultural; multifold divisions of labour.—28. The variety of rural occupations.—29. The vegetation of Central and Eastern England.—30. Maritime industry in relation to commerce. The service of science to mariners.—31. Mining in relation to town and rural pursuits; distribution of mining industries.—32. Inter-dependence of agricultural, mining, and manufacturing pursuits.—33. Our obligations to the soil.

25. In the distribution of population certain industries are closely linked to particular localities. *Town life*, with its arts and manufactures, springs up in places favourable for the entry of raw material, or for the entry and distribution of goods; *agricultural life* cannot be cooped up in streets or alleys, but requires the wide expanse of wolds, downs, or fields; the labourer must go to the land, the land cannot be moved with or by him. In lieu of great cities, small "market towns," villages and hamlets occur in the agricultural districts.

26. Town occupations, as a rule, are pursued within walls, and are regulated by agencies oftentimes far removed from the industrial site.

Agriculture was the first in time, and still is the most important of all human industries, though a walk through the busy streets of Manchester or a visit to the neighbouring factories impresses one with the idea that the toil and hurry

of business are far more important than the leisurely work of the farmer tilling his land.

What is going on in a single factory? Possibly the making of cotton sheeting. Whence comes the material for the manufacture? From the "cotton-plants" of America or of India, perchance. These wanted the attention of a farmer or planter day by day before he was able to reap his harvest and send the produce in one of those bales on the factory-floor.

Extend this thought. Had not the planter been vigilant and skilful, the crop might have failed. Then what would have been the position of our factory? That must have failed too. How dependent, therefore, is the town harvest on the country harvest, even if we consider the textile manufactures alone, and leave out the daily influx to the towns of a supply of food for the preservation of the workers.

27. England is more a manufacturing and mining than an agricultural country. Town and country industries have changed places in their relative importance. We are apt to overlook the necessity for rural work, because it does not appeal to the eye so strikingly as in South Russia, the Dominion of Canada, or the "States," where the traveller runs through long stretches of territory with nothing but corn-fields on either hand, alternating with forests and pastures.

In Great Britain divisions of agriculture are mainly according to climatic zone. Thus oats and bigg (a kind of barley) are the best growths in Scotland and the north of England, barley in the midland counties, wheat in the basin of the Thames and in the eastern and south-eastern counties. Devonshire and Herefordshire have a specialty in orchard fruit, and Cheshire, Gloucestershire, and the south-western counties for dairy produce.

Take, as another example, cheesemaking. One division of the geological strata, termed the Lias, appears in the counties of Cheshire, Leicester, Gloucester, and Somerset; and all these counties have given rise to special cheeses; thus, "prime

old Cheshire," "Stilton," "Double Gloucester," and "Cheddar." In each case their renown is related to the geological formation.

28. Rural occupations are nearly as varied as town pursuits. Thus, there is *brewing* from the malting barley grown in the Midlands, and from the hops of the Weald of Kent; *cider* and *perry making* in south and south-west England from the orchard fruits of the counties lying in those districts; *jam* and *preserved fruit manufacture* from the plums, currants, and gooseberries of Worcestershire and the adjacent counties, and from the strawberries and cherries of Kent; the "*clotted cream*" and "*milk cheeses*" of Devon; the *biscuit-factories* of Berkshire; the *distilleries* near the barley-fields of Strathmore in Scotland; besides the *oat-cakes*, *breadmaking*, *flour-grinding*, and many minor industries connected with food-supply.

Combining food and clothing, we see flocks of *sheep* nourished on the Cheviot Hills or on the Welsh mountains; the South Downs in Sussex and Wiltshire, in Lincolnshire, and most green pastures of England, each locality giving a distinctive name to the flocks. Herds of *cattle* roam over Devon, Gloucester, Hereford, Sussex, Lincoln, and Tweedside, all long famous as remunerative breeds; while the *horses* of Yorkshire, Suffolk, and Lincolnshire, and the *poultry* of every farm-yard, add to the list of economic stock.

Besides meat, the sheep give wool, that finds a ready "market" in towns from the looms of which issue woollen fabrics and garments; while the cattle yield their *skins*, reduced to the form of leather, to the bootmaker, and horns and hoofs to the manufacturers of combs, shoe-horns, handles for knives and forks, buttons, prussic acid, and yellow prussiate of potash, besides being an excellent manure for the land. The economic value of the horse needs not be detailed; while the feathers and down of birds are very useful, both for ornamentation and for stuffing beds, pillows, and cushions.

Time would fail to speak of flax and hemp grown for textile work, the former also for linseed, yielding oil for painters

and the well-known oil-cake; of beetroot, which is now used for the extraction of sugar; of the forests, with their yield of timber; of the straw-plaitings of Bedfordshire, the cane-seated chairs of Buckinghamshire, and of a hundred other things which draw a large number of the population to field and agricultural work in all its branches, allied and derived.

Further, felt wants create industries to satisfy those wants. A daily supply of milk, eggs, vegetables, and fruit in season necessitates round nearly every town market-gardens and small dairy-farms, and these reap a large return by interchanging with the cities commodities which for health's sake cannot be dispensed with.

A demand for luxuries, such as early fruits and vegetables, induces certain parts of the country favoured by climate to send to the cities large consignments of these products. The Scilly and Channel Islands reap a benefit by these transactions, while France sends us large and increasing quantities.

Among comforts and luxuries must be classed *flowers*, *essences*, and *forced fruits*; hence we find the towns willing to give an exchange, and a high one, for the flowers of the south, and for forced fruits, such as pine-apples, peaches, apricots, &c., cultivated in the glass houses of country gardens; while acres of lavender, thyme, &c., surround some of the towns, and are there used for the manufacture of essential oils and perfumed waters.

29. The vegetation of the midland and eastern parts of the United Kingdom, overlapping every other floral division in our islands, bears a close relation to that of Central Europe, and comprises the most numerous and important plants. It is the region of deciduous trees, and includes our chief varieties of timber, with an undergrowth of wild apple, cherry, holly, hawthorn, broom, furze, wild rose, bramble, and honeysuckle.

Food-crops, both of corn and roots, here reach their highest perfection; and every kind of pulse and green vegetables, such as peas, beans, turnips, carrots, potatoes, and cabbage,

grows in profusion. The turnip tribe has spread from Norfolk all over the kingdom. Garden produce of all sorts comes over largely from the south of Ireland, the west of England, Jersey, Guernsey, the south and west of France, and even from Algiers. The land all round our manufacturing towns is every year being applied more and more to market-gardening.

30. Each part of the country gives its own work to its population. The inhabitants by the sea-coast, however, where in general the soil is poor, have another kind of enterprise perhaps at their doors. As the cultivation of the land occupied only the necessary and limited number of workers, those that were left chose a *seafaring life*; some as fishermen, others as sailors, pilots, or master mariners.

We may therefore look upon the sea industry in two lights; first, as supplying the towns and country with change of wholesome and pleasant food; and secondly, as linking town and country; for without our sailors we could neither defend our coasts, nor could our merchant-vessels transport cargoes from place to place.

Fishing-smacks sail from all seaport towns, either for herrings, which crowd the inlets and bays of Great Britain and Ireland, or pilchards off the Irish, Devonshire, and Cornish coasts; mackerel in the English Channel; or turbot, sole, cod, and other white fish off the sand-banks of the North Sea.

The "whaler," who ventures farther away, finds a profitable return for his labour by disposing of the whalebone, tusks, ivory, skins, and oil which he has collected from the whale, seal, narwhal, and walrus of the cold seas of the North.

Seafaring life very strikingly displays the relation between intellectual research and the work of production. Through the aid of men of science, the starry heavens can be read, the state of the atmosphere indicated, the laws of currents, winds, and tides explained. Availing himself of the researches of the astronomer, the meteorologist, and the mathematician, the captain fearlessly traverses the ocean and the pilot guides

safely into port the largest vessel laden with the riches of distant parts of the world.

31. Mining, like agriculture, depends upon geological structure; and, inasmuch as the labour consists of winning raw materials from the earth, and not of manufacturing or working-up of the produce, this industry can hardly be regarded as urban; though large towns have sprung up on or near the mining circles. Nevertheless, the work being below and not upon the surface of the ground, this branch of industry is, strictly, just as little rural, and may be looked upon rather as the link connecting town and country industries.

England is specially rich in minerals and metals, and it is to her possession of iron and coal in such abundance and proximity that much of her commercial superiority is due; and nowadays mining and quarrying have developed large industries.

The *building materials* of Bath and Aberdeen, the *road-making stone* of the Isle of Purbeck, the *bricks* from the London clays and the neighbourhood of Stourbridge, and the *slates* of Carnarvonshire are raw materials of wide application. The *potteries* of Staffordshire, *porcelain-works* of Worcester, *needlemaking* of Redditch, *hardware* of Birmingham, *cutlery* of Sheffield, *shipbuilding* and *engine-works* of the Clyde and east coast, and the *locomotives* of Crewe, all constitute industries directly derivable from the mineral kingdom and the labour of the miner.

The coal-fields of Northumberland, South Lancashire, the Midlands, and South Wales supply us with abundant fuel both for house and manufacturing purposes, as well as for our railways and steamships; and much is required for the generation of steam, necessary to motive-power.

Important industries also grow out of the copper and tin mines of Cornwall, the slate-quarries of North Wales, the fuller's earth of Surrey and Gloucestershire, and the salt-beds of Cheshire and Worcestershire.

32. We have now considered rural occupations in their

strictly "country" sense; we have seen in agricultural districts that some of the people, where the land would not yield sufficient return for the labour expended, are drafted off to seafaring life, and we have traced the miner and quarryman in their industries, **each and all of them working for a common end**, and each and all hastening to send the results of their labour to the towns and cities where they find remunerative interchange.

We can thus understand the commercial connection between the bakers of London and the farmers of Suffolk; the fruit and vegetable stalls of Covent Garden with many far-off counties; the salesman of Billingsgate with the fishermen of Wick; and the copper-foundry or shipbuilding-yard on the banks of the Thames, or the seller of needles in the heart of the City, with the lonely miners of Cornwall or of Merthyr-Tydvil.

The retail business of cities is reflected not only in the stores of the market towns, but in the "general" shop of the village; and the ironfoundry of the city is connected with the blacksmith's forge of the hamlet. The reason is clear; it is not always easy or convenient to exchange the returns of daily labour for necessities by visiting a town; therefore an *intermediary* is employed, who procures from the town such things as are likely to be needed, and distributes them.

Such are the country shopkeepers, who are paid for their labour or service by an allowance or rebate on the article supplied, equivalent to an enhanced price for the convenience afforded, that is for the extra labour entailed.

Commercial transactions are as important to the dweller in the most remote village as to the merchant-prince of the metropolis; the difference between the two is only a difference of degree.

33. The industrial activity of crowded towns tends to a forgetfulness of our obligations to the soil, an oversight which could not occur in more primitive times. Through all ages

the soil has been recognised as the source of the earth-gifts upon which manufactures and trade are founded. The legislation of Moses enforced due attention to agriculture. Cincinnatus was called from the plough to lead the Roman legions, and after victory returned to his farm. Agricola took his name from rural pursuits. Our colonists devote themselves to the soil, as the industry first in the order of time, and still first in the order of importance in the material progress of our race.

QUESTIONS.

Pars.

- 25 and 26.—1. Describe the mutual dependence between the industries of town and country.
- 27 and 28.—2. Enumerate the sites and describe the character of some of our rural industries.
- 29 and 30.—3. Compare the vegetation of England with that of the continent of Europe, and give also some account of the British fisheries.
- 31.—4. Why may our mining industries be regarded as a link between urban and rural occupations ?
5. What advantages accrue to us from the deposits of coal and iron, apart from their abundance ?
6. State fully the nature of the mineral produce of England, with some of its industrial uses.

CHAPTER V.

TOWN PURSUITS; MARKETS AND TRADE-CENTRES.

Par. 34. Complexity and localisation of town pursuits.—35. Circulation of commodities between town and country, and in the larger cities.—36. Extension of commercial activity, Continental, Colonial, and foreign.—37. Investigation of wholesale and retail trades.—38. Nearly all climatic zones may contribute to supply the stock of a single shop or store.—39. Aid rendered for such supply by merchants and mariners.—40. The growth of commerce exemplified in the history of clothing.—41. Necessity for central meeting-places and markets; order in storage.—42. Definition of markets, entrepôts, and emporiums; seaports in this respect.—43. Great centres work to smaller ones, and circle distributes to circle; classification of towns.—44. Historical cities which have led the world's commerce.—45. The world-wide influence yet interdependence of markets.—46. England's ascendancy as due to machinery.—47. English industrial and commercial towns having populations of over one hundred thousand.—48. Mental and moral development coincident with that of industry and trade.

34. Town industries are more complex than rural occupations, having more divisions and subdivisions, yet every division depends upon the country for supplies. The country relies in return upon the towns for everything that is manufactured.

The concentration of individuals in towns has a further significance. We find lawyers in the "Inns of Court;" merchants, shipowners, and brokers round "Change;" fish-salesmen, foundry-workers, and, in fact, the labourers in each distinct trade, in their own local centres. The reason of this is to facilitate dispatch. Take a foundry and all its

divisions. If the foreman, after completing a certain part of his work at the forge, had to send miles off for the next process of manufacture, what a loss of time would occur! and time and labour are important factors in the ultimate value of an article. Mutual convenience induced the artificers of each grade to come and work "next door" to one another.

Again, take the merchants; if they lived far from each other, how would it be possible to transact business with advantage or expedition?

35. In the towns we find two movements—a steady flow inwards from the country of raw materials, and a return current of manufactured or made-up articles; and in the towns themselves a sort of circular current, affecting each man in turn, and resulting in the larger ebb and flow of import and export trade, or international commerce.

Industries, in the aggregate, cannot be too extensive; they resemble many mountain streams, each running in accordance with natural laws until they merge into one river and are discharged into the ocean.

36. If trade were restricted to our own islands the turnover would be comparatively small. As soon as our mariners began to explore the seas and visit other lands foreign interchange began, with Europe in the first place, because that continent lies the nearest to our shores. Now our commercial transactions enable us—assisted by our Colonial possessions—to supply other nations with any known commodity from every productive zone. Further, the possession of all these varied natural resources causes our town industries to expand, and to include varieties formerly unknown.

We cannot grow cotton in England, but we can import it. Our mechanical resources are so great that nations lying thousands of leagues away interchange their rural wealth, their cotton-crops, for example, for our "town harvests"—that is, for our cotton-cloths—with advantage to themselves and a large surplus to England for labour and skill.

37. The articles that come in are chiefly raw materials,

whether corn, timber, hides, drugs, fibres, or essences; and each of these commodities, from the first stage to the last, employs a number of labourers. The corn occupies the miller and his assistants who turn out the flour, which product gives employment to the baker, confectioner, and pastry-cook. Again, timber enters into house-structure and furniture, into sailing-vessels, railway carriages, carts, and waggons. The mere mention of these products indicates a number of labourers, one planing and sawing, another fitting, another carving, another gilding, and, invariably, another exchanging.

With such a variety, the interchange of commodities assumes a more complicated phase; but it is usual to class them all under two heads—wholesale and retail; the *former* applying to the extensive workers who sell in large quantities, and the *latter* to the shopkeepers and those who keep stocks in hand for gradual distribution.

38. The contents of one or two shops will give us a better idea of the many ramifications of business, or commercial transactions, than a large warehouse used only for a single article or articles of similar or analogous make.

Enter a greengrocer's or fruiterer's, a grocer's, a chemist's, or a draper's, and what do we see? In the *first*, apples and pears from all English counties, from Northern France and Canada; peas, beans, turnips, carrots, potatoes, and cabbages from all England, but especially from the Midlands and eastern counties; strawberries and cherries from Kent and France; plums from Worcestershire and France; oranges from Spain, the Azores, and the Mediterranean shores; apricots, peaches, nectarines, and olives from the southern slopes of Europe; and melons even from Asia. Elsewhere we see shaddocks and pine-apples from the West or East Indies; figs from Smyrna and the ports of North Africa; dates from Egypt, Arabia, Barbary, and Persia; bananas from the equator; grapes from the warm-temperate zone; and filberts from our English gardens, or from Spain; from Brazil, or the beautiful island of Ceylon, something akin, in the shape of coco-nuts.

Thus the fruits of every climatic zone, after a voyage of thousands of miles, may meet in a small shop in England.

Enter a grocer's; the field of supply is even more extended. We see around us the rice of the tropics, or from the swamps of Carolina; the arrowroot of the Bahamas; tapioca from South America and the West Indies; sago from Singapore and the East Indies; tea from China, Hindostan, or Ceylon; coffee from Arabia, East and West Indies, Liberia, or Brazil; cocoa from the West Indies, Central or South America; spices from the East and West Indies, or from the east and west coasts of Africa; currants from the Ionian Islands or Greece; sugar from the East and West Indies, Brazil, or Hindostan; with beet-sugar from Belgium, Germany, or Austro-Hungary; and perchance maple-sugar from Canada; cheese from the English dairy counties, from North America, Holland, Switzerland, or Italy; and other articles too numerous to name from every clime.

A **chemist's shop**, again, draws its balsams from Canada or South America; its quinine from the cinchona of America or India; camphor from the East Indies; asafoetida from Afghanistan; aloes from Socotra; ipecacuanha, sarsaparilla, and jalap from Peru, South and Central America; besides the "otto of roses" and other essences of Asia Minor and Turkey; the dyes of Turkey, Persia, Hindostan, South and Central America, coupled with the sponges of the Greek islands, Tripoli or Tunis, and therapeutic or curative agents, from many regions.

The goods in a **draper's store** often exhibit, combined in one article, the products of places widely sundered. Look at a lady's parasol; possibly a covering of silk from Italy, Brusa, or China; dyed with madder from Turkey or Asia Minor, the logwood of America, or the indigo of India; fringed with lace from Honiton, Mechlin, Brussels, or Valenciennes; expanded formerly on whalebone from the Arctic seas, or more recently on ribs of steel wire; and set on a cane from India, or of sandal-wood from the East Indies or West Australia; with a

ferule of copper from Cornwall or Chili; surmounted by a handle of ivory from Central Africa; and inlaid with mother-of-pearl from the Persian Gulf or Ceylon; and perhaps covered lightly with the beautiful figured muslin of Dacca.

Look, too, at those dresses which include cotton from America and India; silk from China, Japan, or Hindostan; alpaca from Chili and Peru; merino from the Spanish sheep or Australian and Cape wools; cashmere from Northern India; and linen from the flax of Ireland, Russia, or Canada.

39. Thus many varied resources meet in one shop, and oftentimes in one article, representing labour in many divisions. These materials could not be brought together without the aid of the merchant and the seaman. The former, by his knowledge of the produce of various countries, is able to issue instructions to his agents and to the captain of a vessel, and through them to obtain foreign produce, which he passes on to the manufacturer in exchange for finished goods; and these may possibly find their way to the countries whence he has drawn the raw material, the workers in those countries being unable to manufacture for themselves, while the interchange benefits both parties.

No *one* merchant could visit all the various markets of the world; neither could any *one* store all this wealth of material and distribute to others. There must be a combination and co-operation of individuals. A merchant conversant with Russia *must* confer with one conversant with Australia; one well up in Indian produce with one in the American market; and the manufacturer with each and all—a practice necessary to prevent a superabundance of any one article, or of a few to the exclusion of others. This again points to another reason why individuals of a “trade” congregate together. There must be central meeting-places for dealers, and central storage-places for their goods. These requirements of commerce have led to the institution of the “markets” of England and the world.

40. In tracing the growth of commerce it is simplest, and

therefore clearest, to take a single illustration, say that of dress, and investigate its history, remembering that a corresponding history of development attaches to every object of interchange. Knowing how capricious is fashion, and how continuous the change in the "style" of our apparel, from the coverings of our heads to those of our feet, we are prepared to find extreme differences in the costumes of successive ages. Cotton, wool, linen, and silk, however, appear to us, from custom and familiarity, to be permanent materials of clothing, which, without actual knowledge of the fact, we might imagine as common also to our ancestors.

The history of clothing, on the contrary, presents as wide a range of materials as of costumes. The eldest inhabitants of Britain clothed themselves in the **skins of wild animals**; subsequently, as the feeding of cattle gradually increased, the **skins of sheep and calves** were used in combination. At a more recent period the **wool of the sheep** was shorn, and coarse woollen stuffs and cloths prepared, which constituted the most important part of the dress; **flax dress** was at that time a luxury, and wool took the place of linen, even for coverings next the body.

The use of linen, together with that of **wool**, became more and more general as by degrees commerce introduced more linen, and the cultivation of flax was increased in the country. Finally, **cotton manufactures** have, to a great extent, superseded linen goods, and the substitution seems constantly to extend. In this manner not only has the more manufactured article taken the place of the less manufactured, or raw material, but the products of the more remote countries have displaced the products of home and neighbouring lands, *a phenomenon which owes its origin to the increase and improvement of machinery and of the means of transport.*

There can hardly be an event in the history of industry that demonstrates so clearly the triumph of machinery, and of the human power of invention, as the **history of the development of the cotton manufacture**. Hand-made muslins

have long been famous. In the ninth century Arabian travellers spoke of a muslin garment they had seen so fine as to be drawn through a finger-ring; and a recent traveller speaks of muslin so exquisite as to be invisible when spread out in a meadow and wetted with the dew, earning the poetic title of "woven wind."

This history of clothing leads the thoughts to the history of the development of the human mind. Not alone in their dress were the skin, wool, or linen-clothed inhabitants different, but simultaneously with these changes, and not uninfluenced by them, occurred manifold changes in their entire mode of life, occupations, and mental development.

41. As one goes to the grocer for sugar, or to the ironmonger for hardware, so must a retail dealer go to the wholesale dealer or merchant, and that merchant to the market, warehouse, or vessel for the commodity he wants.

Further, as there must be an immense variety of produce gathered into one great commercial city, so there must be order in the storage, and also among the merchants owning the produce. Hence we find spice warehouses, wool warehouses, wine-vaults, timber-yards, granaries, &c., each set apart for special commodities; and among meeting-places for individuals we find the spice-market, wool, corn, coal, and timber exchanges.

Near these central markets or meeting-places, those whose business leads them into each special line live or transact their business together, and all near to the special markets or exchanges. If spices are wanted, your inquiries would lead you to the neighbourhood of the East India produce exchange; and similarly, for wheat or oats, you would visit the corn-market in Mark Lane and its surroundings.

These markets act and react one on another. In England there are many corn-markets, some dealing in foreign grain, some solely in English, and some in both, but they all work together; the large markets influence the small, and the

small, especially in the time of extra good or bad harvests, influence the large.

If it had not been for the possession of Colonies and for the extent of our foreign trade there would now be no need for the number of warehouses and quays fringing the waterways of our seaport towns; but with a world-wide commerce warehouses are a necessity.

42. Let us suppose cases common enough. When cotton was required in Manchester and a cargo of two or three thousand bales arrived in Liverpool, they could not be delivered in Manchester direct, because there was no waterway; hence they must be landed in Liverpool, and to prevent deterioration or damage, must be warehoused until wanted by Manchester; hence Liverpool became the warehouse *entrepôt* for the Manchester market.

A cargo of wine may come to London, purchased probably on speculation; that is, on the *chance* of selling after arrival. On receipt the casks and hogsheads are deposited in the dock vaults, the wine merchant knowing that by keeping his wine in these cool quarters he is improving his property. Then he usually waits until "inquiries" reach him from country places at intervals, every sale or similar transaction helping to constitute London an *emporium*.

Other cargoes arrive of fish, meat, or fruits, perishable articles that will not bear storage; hence the cargoes are smaller and arrive much more frequently, and the produce is at once taken to the "*open markets*" for immediate consumption or for not far-off distribution. The railway fish-vans crowding Thames Street every morning for the Billingsgate market and the fishing-smacks at the riverside landing-place are cases in point.

Wherever general cargoes, *i.e.*, cargoes made up of a variety of commodities and not of one product only, as wheat or coal, arrive, there must immediately be constituted an emporium, *except at ports solely railway termini*. Discharge of a variety of valuable goods has to take place in a short time, and these,

as we have shown, must be warehoused. Ships have to be discharged within a certain limited period, therefore the ports thus warehousing act as emporiums; that is, as holders of goods pending further distribution.

43. Our trade is augmented by England being the carrier of the world, and the importance of London as an emporium is thereby increased. Being the nearest great centre for Continental transit, merchandise brought into the port and not used for consumption, but intended for re-exportation to Europe, must be warehoused in the interval.

An explanation is thus afforded of the existence of great centres, to which alone the trans-oceanic vessels run, for the double reason that these centres only have available the quickest appliances for loading and discharging; and secondly, that only great centres can accumulate sufficient general cargo to load large steamships outwards, as well as receive their varied inward cargoes.

Our great centres (practically London, Liverpool, and Glasgow) act as emporiums for the whole kingdom, and supply what they hold to smaller centres and circles throughout the country. Each commercial area and sub-area, too, has its own centre. Bristol is an emporium of the second order; besides receiving and sending out goods direct over-sea, it draws supplies from London and Liverpool, and thus acts as a secondary entrepôt; while Newport and Cardiff draw their requirements from Bristol, and are therefore tertiary emporiums. These in turn feed the smaller towns lying near, such as Usk, and these again the surrounding villages and hamlets.

There is likewise an ebb and flow in these transactions. The small villages return to the nearest town vegetables, fruits, and the yield of the soil; the small towns pass on their surplus, with manufactures of local industry, to larger towns, until the central emporium is again reached.

We class these large emporiums as commercial towns, in distinction from **manufacturing towns**, which absorb raw materials and return finished goods; or from **country towns**,

with weekly corn and cattle markets; or the fashionable **sea-side and pleasure resorts** of visitors, who are customers only, drawing their necessary requirements from the surrounding country and their luxuries from the central cities.

We thus see that **commercial cities** depend upon their *situation on rivers, harbours, or estuaries*, where vessels of large tonnage can readily approach, and where easy transit and distribution are effected by rail, road, or water with inland places; that **manufacturing towns** depend on the *proximity of mineral wealth and sufficient water-supply, with facilities for distribution of finished goods and receipt of raw materials*; **mining towns** on the *neighbourhood of minerals*; **market towns** on the *capabilities of the soil*; and **fishing villages** on the *coast-line and harbours, or on near-lying fishing-beds*.

44. From time to time various cities have led the commercial world, but they were influenced by the same laws that operate now. Thus, when the Phœnicians were the first commercial people of the world the centres of trade were Sidon and Tyre; or later, Nineveh and Palmyra. Afterwards Carthage and Alexandria led the van; in the time of Greek civilisation all the most advanced art and science centred round Athens. This gave place to Rome, Constantinople, Venice, and Genoa. The Hanse towns, Barcelona, Madrid, Lisbon, Beaucaire, Rochelle, and Bordeaux, in turn felt the elevating effects of trade, spreading ever westwards, until London, Bristol, and New York came slowly to the front of the commerce of the world. Of these great trade-centres the earliest are utterly extinct, while many of the rest have fallen from their high estate. Commerce, as we have seen, tends to the expansion, wealth, and power of cities. How then account for the ruin of the first and the decay of the second? We trace the rise and growth of the ancient cities, and their fall when at the plenitude of wealth and grandeur. We observe, too, the trade-centres shifting in a series westwards from Tyre and Sidon to Carthage and Rome, and as like effects

proceed from like causes, we seek for the cause, not in industry and commerce, which vivify and enrich empires, but in violations of moral law which issue in destruction. The policy of the ancient States was an isolated and a concentrated selfishness; the effort to bring all wealth to one focus and to crush all rivalry. Founded upon conquest, they were the prey of conquest, without pity, yet not until sensual license had sapped the hardy virtues that created their wealth and power, and they had left themselves at the mercy of unscrupulous neighbours, whom they had made enemies, ever awaiting the moment to strike. The trade-centres of the Middle Ages, again, shifted westwards. Human passion had less to do with their decline. A measure of reciprocity characterised their dealings and saved them from perishing when the Cape route diverted their Indian traffic and a new world was opened to commerce. *The spirit of reciprocity, which makes the prosperity of any one State the welfare of all, animates the recent sites to which the trade-centres have now shifted, and is the firmest assurance of their stability.*

45. In considering the influence of our markets and emporiums, notice that their effect is not confined to ourselves. There are analogous markets and exchanges in every civilised State, and with the present means of rapid communication **the condition of any one market is reflected in all the others.** London or Liverpool is in touch with New York, Paris, Havre, Marseilles, Antwerp, Hamburg, Berlin, Brunswick, Vienna, St. Petersburg, Odessa, Calcutta, Adelaide, Melbourne, &c., and a felt want in any centre, or an anticipated want in any region or quarter of the globe, reaches, by an electric thrill, each and every market; immediately a current sets in to satisfy the want; thus one centre reacts upon another, and the equilibrium of trade is adjusted.

46. For manufactures England retains the ascendancy which she gained in comparatively recent times; and "it is mainly attributable to the excellence and continued improvements of her machinery; for to excel in machine-making is to

excel in the most important branch of manufacturing industry; superiority in any single branch except this may exist simultaneously with great inferiority in many others; but eminence in the manufacture of machinery is almost sure to lead to eminence in every other department."

Viewed in this light, what does not England owe of her present superiority to the genius of an Arkwright, a Brindley, Cort, Crompton, Stephenson, or Watt? What, also, to the philosophers who discovered the principles and laws or modes of nature's working; to the patient thought and constructive skill of our great inventors and mechanicians, who embodied these laws in steam-engines and machinery?

47. When we trace the growth of our large towns, lying often so near each other, and consider the industries which have drawn hundreds of thousands of people together, some idea of the immense tide of commerce that ebbs and flows internally, and of the large surplus that merges into external or world-wide trade, may be formed.

Among towns numbering over 100,000 inhabitants are London, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Bristol, Bradford, Newcastle, Salford, Hull, and Wolverhampton. Let the student compare their growth in industry with their scientific and intellectual progress, and the study would impress him with the far-reaching beneficial effects of commercial transactions.

48. Industry, invention, and commerce go hand-in-hand, leading men higher and higher towards perfect, though remote, conditions of civilisation. Many circumstances combine in the activity of town life to give greater fervour to this progress than in the less active pursuits of country life. The concentration of labourers lends a concentration of interest to the work undertaken. The producers are at hand to discuss and confer upon methods. New contrivances, inventions, and discoveries are tried, and co-operative labour has the fairest field for its exercise. Co-operation means union, which is strength; the strength of the bundle of sticks of fable against

a single stick. Industrial and commercial history proves that towns have ever been the leaders in economic progress, as witnessed in the great trade guilds of Venice and Florence, Germany and England, the East India and Hudson's Bay Companies, as also in the great citizen traders, such as the Fuggers on the Continent and Gresham in London. Association, only feebly possible in country life, is an essential condition of town life. Mind acts upon mind; labour reaches sooner intellectual heights, and brings to bear upon production all the resources of science and art. Thus town industries become an active part of our intellectual culture, and towns are not the mere sites of factories, workshops, and markets, but the homes of taste and refinement, of fashion and luxury, of genius in every department of human intelligence and knowledge.

QUESTIONS.

Pars.

- 34 and 35.—1. Give examples, other than those in the text, of the concentration of town labourers in their own trade-centres
- 36-39.—2. Prove how vastly foreign interchange extends the productive resources of our own country, and show how the produce of every climatic zone may contribute to supply a single retail store.
- 40.—3. Exemplify the growth of commerce by the history of clothing.
- 41 and 42.—4. Explain the meaning of market, warehouse, entrepôt, and emporium, and show their necessity in English wholesale trade.
- 43 and 44.—5. Distinguish between commercial, manufacturing, mining, and market towns, giving examples and reasons.
- 5a. Give the succession of the great States which have led the world's commerce; and account, briefly, for the continual shifting, in the past, of the centres of trade.
- 45-48.—6. Trace the moral and intellectual causes that have contributed to the industrial and commercial ascendancy of England.

CHAPTER VI.

GREAT CITIES AND CAPITALS.

Par. 49. Commercial position of London as a port, and as the Metropolis. Comparison with other cities.—50. Representatives of all trades congregate in London.—51. London markets.—52. Although a “market of markets,” London is not technically an “in-and-out” port.—53. Aspect of the river Thames.—54. View of the London Docks.—55. Details of commercial business; insurance; Lloyd’s; banking; systems of credit.—56. Commercial laws; view of the streets of the Metropolis; the Bank of England.

49. London is the largest emporium and entrepôt in the United Kingdom, indeed in the world; within its area are *markets and exchanges for every known commodity*. It is, too, *the most extensive port in Great Britain*.

The existence of a port is dependent upon its navigable waterway; the tidal way is the factor that mainly determines the situation of a river-port. The Thames is a fine river, made navigable to the heart of the city. Its mouth is directly open to the Continental ports of Antwerp and Rotterdam, with a free sea-road to the Baltic and all North European harbours, or down the English Channel to the Americas, to the Mediterranean, and hence to any part of the globe. Further, the estuary of the Thames lies in the track of vessels bound to and from all north and south ports; London therefore lies in a position that draws to it mercantile enterprise.

Besides its position for over-sea traffic, London is in direct correspondence with every part of the United Kingdom by rail, road, or canal; thus its transport facilities alone enable it to prosecute industrial interchange in any direction.

GREAT CITIES AND CAPITALS.

Excepting the port of Bristol, on the Avon, opening to the Bristol Channel, London is the only English city on a river both suitable for commerce and the natural outlet of an extensive area south of a line drawn from the Wash to the Mersey.

Why then is Bristol not recognised as the leading city?

Because London has a better position with regard to the continent of Europe, for in olden days Bristol led out "nowhere" in comparison with London.

A second reason is, that ever since the Conquest London has been the capital of England; and independently of its superior natural position, the inhabitants have always been unanimous in keeping it as the Metropolis. The old Roman roads running from Dover, the nearest point to the Continent, likewise struck the Thames at London.

On the other hand, we can account for west of England trade from the fact of the west being the first land that early adventurers from the Mediterranean would touch; but business-colonies, even when established there, could not compete with the greater advantages of London.

50. Although London is a commercial city, and cannot properly be classed as a *special manufacturing* or *mining* town, still it ranks as all three, from the fact that all the business firms of the *regular* mining and manufacturing towns have branch offices, or, as they are generally called, "head offices," in London, an admission that London is the central business city; the existence of markets and exchanges "in town" enabling buyers and sellers to meet and personally transact business.

The special features of London manufactures are seen in the great breweries and distilleries, the Spitalfields weaving, Clerkenwell watchmaking, Lambeth potteries, Finsbury cabinet-making, the sculptures and masonry of Marylebone, Bermondsey tanneries, and the many chemical and other industries of various parts.

51. London is the central "corn" market of England. As the Thames basin and south-eastern counties are the best

suiting in the kingdom for wheat-growth the produce gravitates to the Thames and London. Further, the granaries of the Metropolis will store large quantities of grain from the continents of Europe and America, from India, or the island continent of Australia.

The commercial practice is not, however, as a rule, to "store" grain, and is growing less so, in these days of rapid transport and easy communication. Telegraphic extension over the globe tends, indeed, to supersede the vast storage of any kind of produce, and fewer great warehouses are now built.

While a vessel is still "on passage" merchants are able by meeting "on 'Change" to test daily "wants" and supply the requirements of particular districts. The merchant can then telegraph to the next "port of call," where the vessel has to touch for orders, for the ship to proceed to the required destination. Thus, a steamer laden with wheat, barley, rye, or maize coming from the Black Sea will call for orders *en route* at Malta or Gibraltar, and vessels from America or other trans-ocean ports usually call at Queenstown or Falmouth.

London has many slaughter-houses on the river-bank, Deptford being the chief centre for this division of the foreign cattle-trade. The buying and selling of meat are, similarly, conducted at the markets of Smithfield, Leadenhall, or White-chapel. Many carcasses now arrive in a frozen state from La Plata, New Zealand, and Australia.

The regulation of supply and demand in the fish-trade is conducted at the central market, Billingsgate, by the river-side.

Colonial produce and the ordinary commodities of the grocer's trade are regulated from the "Mincing Lane Sale-rooms," where the purchaser may see and test for himself every spice from the equatorial zone; may "taste" the teas of India, China, and Assam; or compare the sugars of Demerara and the West Indies with those of the East Indies. For fruits and garden produce he visits the central markets of Spitalfields, Farringdon, Covent Garden, or the Borough, in

the vicinity of which last lies the **Hop Exchange**, so important to the beer and brewing industry. The **foreign-fruit market** is located in Thames Street and Pudding Lane.

Passing on to products used in clothing, the **central wool-market** is in Basinghall Street. Nearly all the wool received in England from Australia, the Cape, La Plata, or elsewhere comes to London, and is there warehoused, the product being then forwarded to the manufacturing centres.

Cotton, as a raw product, hardly enters into London imports, nearly all English receipts going to Liverpool; jute and **flax** go to Dundee; some **coir** and **hemp** to London for cordage and sailmaking, which industries are prosecuted chiefly in the "East End."

Hides, **skins**, **leather**, and **tanning materials**, with the auxiliary products of **parchment** and **vellum**, have their headquarters in Bermondsey.

For the trade in **metals** and **minerals** we find the **Metal Exchange** and **Coal Exchange**, where large quantities are daily disposed of; the fuel being used both for house consumption and for the steamships in the river, the many railways, and the factories.

Not long ago the Thames was the centre of the **shipbuilding trade**, but facility and cheapness of production combined with difficulties with the London shipwrights have driven this business to the north-east coast ports, the Clyde, Barrow, and the Mersey, where iron, steel, and fuel lie close at hand. London could not compete when she had to pay heavy freightage on every article used in construction, from the iron plate to the nail, or from a wooden mast to the wood for a cabin-chair. The equilibrium of prices protected the purchaser, and the felt want induced new sites, while the neglected want closed the Thames yards.

52. From this cursory view, it will be seen that London is a central market of markets, a vast emporium; the greatest of its trades being its shipping and carrying. Yet London is not what is technically called an "*in-and-out*" port; that is

to say, a steamship arriving with a cargo of deals or grain would, after discharge, be compelled to leave "in ballast" for an out-port, as no cargoes, or very few, of any one commodity leave the Thames. Hence London is an "in-and-out" port for regular liners only; that is, for vessels loading and discharging general cargoes.

The reason is clear. London has no raw materials of its own to export; hence no full cargoes of a single commodity, as from Cardiff or Newcastle, are obtainable. There are occasionally a few shiploads of secondary products, such as pitch and tar. From the business done "on 'Change" many small parcels of miscellaneous goods come forward for shipment; therefore a vessel frequently "takes the berth" for some foreign port, and the various "trades," each contributing its quota, furnish a full general cargo.

53. Stand on London Bridge any morning and look at the forest of masts lying in the "pool," some vessels discharging their fruits, their sulphur, or their fish; others just under weigh for some coast-port of England or the Continent; tugs bringing up or down the river barges laden with produce intended for some wharf where the larger vessel could not approach. Drop down the stream with the next river steamboat, and see the miles of wharves and warehouses on either side, and vessels at each, busy loading or discharging.

54. Come to the docks where the larger vessels lie loading, and the wood import docks of the south side, where acres of timber lie stocked. Walk round the East and West India, the Royal Albert, or other large docks; on one side you see the sheds full of products from every climatic zone, the copper of South Australia or the gums of New Zealand lying close to the asafoetida of Persia and the tobacco of America; while on the opposite side, in regular succession, are the stately steamships and the old sailing-vessels, lying stem to stern, and being rapidly loaded with a multitude of goods, all carefully marked and numbered, and destined for a near port or for "the uttermost ends of the earth."

Proceeding on our journey down river, we pass more docks, a few factories, and at last, some thirty miles from London Bridge, we reach the limit of the "port of London" in Gravesend. We find here, standing out to sea both steamer and sailer bound for the Baltic and the North; others only a few miles off, to a channel or home port, or perhaps to the Mediterranean or Black Sea. Those floating palaces, belonging to old-established lines, and running as regularly as clockwork with our letters and news, are bound to America, Australia, India, the Cape, China, South America, or the Pacific ports. Truly, here the forces of the earth are gathered together into one focus.

55. All this carrying, all this meeting on 'Change, brings with it a vast amount of detail work. Look at the streets of offices, each filled with clerks, working out commercial problems; here is "Lloyd's," the *central marine insurance room*, where you are able to "cover" all your "risks at sea." For the payment of a small premium the "underwriters" agree to indemnify you against any loss that may occur to your goods while in transit. This is effected by *many* taking the risk instead of *one*, the many safe premiums more than covering the one loss. Cross the street, and you can be indemnified from loss by fire to your goods or houses, or can insure your life on the same principle of average.

Such an accumulation of business could not be carried on without co-operation of service and mutual confidence. Each transaction means value of some kind, just as the miner exchanges coal for its value in bread, only from the magnitude of mercantile transactions are they of a complicated character.

In rapid and multifarious operations it would not be feasible to exchange the actual produce or products there and then. Commercial ingenuity has therefore devised substitutes or representatives, more easily handled, for values measured in commodities. *These substitutes take the form of coin, specie, or money, which for convenience and safety are generally lodged*

with a banker. Banking, or dealing in money, in such a vast city as London, assumes the dimensions of a very extensive industry. In fact, the **Metropolis is the banking-house of the commercial world.** Traders doing a large business may see little of the commodities which they really buy and sell, arranging and settling their business affairs, and computing their profits in the "circulating medium" of money which they keep at their bank. Their whole capital, of whatever nature it may be, whether coal, iron, textiles, or Colonial produce, is measured in money, and their designation of capitalists refers to the money value of their "stock-in-trade." Nevertheless, to pay or receive great quantities of coin or bullion (uncoined gold) would still be cumbersome—a waggon-load would be often wanted. **A system of credit** has consequently supplemented monetary payments, and documents instructing to pay "at sight" or "on demand," or promising to pay at fixed date, are accepted as equivalent to settling in coin.

56. These transactions, apparently so complex, are governed by laws as simple and as certain in their operation as the laws of nature, upon which, indeed, they are founded. Transactions in commercial life, however confusing at a first glance, are based on the law of supply and demand, and are governed by confidence.

Storms arise in commercial life as in nature, except that they are to be traced to human agency, and are always the result, not of the due manifestations, but of the violations of law, arising, in one form or other, from abuse of commercial confidence, in an over-pledging of capital or credit. The effect is seen in an excess of supply and a diminution of demand. Conflicts of the elements are in nature's order of working; they bring local devastation, but render the earth fairer. **Commercial crises** are, on the other hand, an unredemmed evil, for they entail the loss of honour as well as capital; and though after the storm and the fall of "princes of trade" commercial life is cleared and purified for the time, the evil

is widespread and lasting, and not, as in nature, "partial evil, universal good." Crises have their moral as well as commercial aspect, and one great aim of enlightened education is to render their recurrence impossible.

Finally, walk down the beautiful streets of the west of London, and in the shop-windows see some effects of all this toil—the most beautiful workmanship in metals; the most costly combinations of clothing materials; tempting results of processes from food-products; the finest extracted drugs and essences, with the "cream" of European and Oriental manufacture, and all that art, science, and literature of every country and every age can supply.

London is the Metropolis of the *United Kingdom*, the central seat of commerce and credit, the home of art and science; and if not the most beautiful architecturally, the *greatest commercial and business city in the world*. "Of this island the centre is London; of London the heart is 'the City,' and in the City you can put your finger on one spot where the pulse of the world is said distinctly to beat. . . . The Moslem regards the Kaaba at Mecca as the centre of the universe, but that is only a theological phrase. The centre of the world is the Bank of England in Threadneedle Street. There is not an occurrence, not a conquest or a defeat, a revolution, a panic, a famine, an abundance, not a change in value of money or of material, no depression or stoppage in trade, no recovery, no political and scarcely any religious movement—say the civil deposition of the Pope or the Wah-habee revival in Arabia or India—that does not report itself instantly at this sensitive spot. Other capitals feel a local influence; this feels all the local influences. Put your ear at the door of the Bank, or of the Royal Stock Exchange near by, and you hear the roar of the world."¹

¹ Extract from article on "England" in *The Century* magazine, November 1882.

QUESTIONS.

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- 49.—1. Upon what does the existence of a commercial port depend?
What peculiar advantages does London possess to make it the chief port and emporium of the world?
- 50.—2. State the claims of London to the rank of a mining and manufacturing as well as of a commercial city.
- 51 and 52.—3. Justify the appellation of "market of markets" as applied to London.
- 53-56.—4. Depict the commercial features of the river Thames and the river-side docks, and contrast with aspects of "West End" trade.

CHAPTER

INLETS TO OUR METROPOLIS, AND INTERNAL TRADE.

Par. 57. Approachability from all sides the chief feature of a commercial centre.—58. The old highroads of England.—59. Internal waterways and their utility.—60. English coasting trade ; natural gravitation or ebb and flow of goods to or from centres ; the seaports.—61. The railways radiating from our Metropolis ; their relation to industry and trade.—62. Comparison with Belgian and Dutch systems of communication.

57. Were London open only to communication from the sea, its importance as an entrepôt or emporium would be impaired ; **one peculiar advantage is that it is easily approachable from all sides.** Its situation is such as to draw to itself all produce belonging to the Thames basin ; but being in a valley with undulating country around, there can be no physical difficulties of approach from more distant districts. Towns are not built nowadays in inaccessible places, as when the sole thought was impregnability in case of attack ; but sites are chosen which give facility for commercial movements, for transit and distribution of goods. London, though ancient, has all the advantages of a modern site.

58. **Macadamised or turnpike roads** are less used than before the railway era, either for passengers or for goods ; the old coach-roads still exist and are kept in order—the English roads, indeed, are equal to any that can be found on the continent of Europe—but their chief present use is for communication from country villages to towns, and between the suburbs and the cities.

The great north, south, east, and west roads still teem with traffic, but of a very different kind from that of olden days ;

and, except for the conveyance of a few perishable goods or droves of cattle, these means of communication have lost their commercial importance.

Covent Garden, or Borough Market, very early on a summer's morning is crowded with carts or waggons discharging their fresh fruits or vegetables, which have been brought up from the neighbouring counties of Surrey, Kent, Essex, Hertfordshire, or Middlesex. Some of the other roads, too, still keep a little activity by reason of the hay and meat traffic entering London for the East End markets; a few droves of sheep and cattle may be met with, but the chief use now of the old coach-roads is to act as auxiliaries to the railways; they are the great feeders of the lines. As such, the roads throughout the kingdom play an important part in commercial movements.

59. Again, London is favoured with canal communication—waterways which run into the Thames, and are joined to this river by sluices, that reach uninterruptedly from our Metropolis to the north, south, and west of England.

A country favoured with internal waterways connecting the leading ports with the manufacturing centres must be in a better position than one whose means of conveyance are only railways and roads; for every facility for transit is an additional incentive to interchange, and ease of communication is reflected in the imports and exports of a country.

Let us examine a case.

A shipper of hardware in Birmingham is desirous of exporting a certain quantity of his manufactured commodity, say to India; and as he is certain, from the number and regularity of the steamers sailing from London, to be able to ship his goods on a certain day without the risk of "demurrage"—that is, of being compelled to house his goods in barge or warehouse, which of course involves extra cost—he chooses this port for the transaction.

He has then two means at least of forwarding the goods, one by railway direct to the docks, another by canal, also

direct. Thus far the facilities are equal; but the railway will deliver much quicker, although at greater cost than the canal, against which must be set the rather less risk of damage during transit by the canal.

Water-carriage is always cheaper than land-carriage. Having these points before him, the Birmingham merchant can place one advantage against another; all he needs is to study his own time for delivery, and competition will act in favour of his goods.

This would not be the case without competing means of conveyance; then the monopoly enjoyed by the canal, the rail, or the road would operate against the value of his goods, and the merchant would have to expend more of his own labour to enable him to effect an interchange in competition with a rival more conveniently situated.

Speed and punctuality of delivery are generally quoted as reasons for increased rates of freightage, and railways are consequently more expensive as carriers than canals. But the great reduction that is made in rates, where there are competing lines, shows that position operates for or against transit, and that all merchandise does not share the same advantages.

We draw this conclusion, that goods of great bulk or weight, but of little comparative value, enter London by water; while those articles which by their nature are valuable or of small proportions will come by railway. Where speed is a necessity the railway is always chosen.

London canals link and interlink with almost all parts of the kingdom. Thus the Grand Junction Canal joins the Thames at Brentford, runs by branches into the north and east of London to the docks, and connects directly with the Coventry Canal, Birmingham, and all parts of the Midlands. The Trent and Mersey Canal joins the rivers Mersey and Trent, and consequently the Irish Sea with the North Sea. Near Stafford this canal divides into three branches, one running to the Severn near Bewdley, one to Birmingham,

and one to Worcester. The Kennet and Avon joins Bristol to the Thames; while Liverpool and Birmingham unite directly by canal, as also do Leeds, Manchester, and the surrounding districts.

There are many smaller lengths of these useful waterways. The principal manufacturing districts of England, whether cotton, iron, or pottery, the fields of coal, iron, or salt of the Midlands, or the bricks and building material of Stourbridge and neighbourhood connect not only with each other and with the great seaports, but each and all with the great centre, London.

The Manchester Canal to the river Mersey *is to be capable of floating the largest vessels.*

All efforts made to carry raw materials direct to the manufactories, and manufactured goods direct to the markets, by the widening or deepening of canals, or by any other means by which time is saved or transshipment avoided, are a direct boon to the consumer, because the goods then come to hand at less cost, being really the cost as now, less the labour of the intermediate helpers, who do not improve the character or quality of the product, although their services enhance its cost.

60. Another great advantage that we possess in our island home over those countries whose frontiers are but dividing-ridges leading to further expanse of land territories, is that we can carry our productions from point to point coastwise.

Any goods coming from Northumberland or Yorkshire need not bear the heavy charge for railway transit to the Metropolis, for there is a direct water transport from the seaports of the north-east coast to the Thames and London. The Midlands also have the option of forwarding their goods by rail or by canal to Hull, and thence by coasting steamer to London. What we lose in direct land international transit we partly regain by sea, besides the extra national security.

The regular lines of steamers, already referred to, carrying

general cargoes, require the help of all England to fill them ; consequently numbers of small parcels pass between all parts and London, and enable many lines of coasting steamers to trade regularly and remuneratively from every port on our coasts.

To show the many loops and links round our shores connecting directly or indirectly with London, examine the following lines with any atlas :—

London to Yarmouth, Boston, Hull, Goole, Sunderland, Newcastle, Leith, Dundee, Aberdeen, Portsmouth, Southampton, Plymouth, Falmouth, Bristol, Cork, and Dublin ; Aberdeen to the Firth of Forth, Kirkwall, Lerwick, Liverpool, Thurso, and Wick ; Barrow to Dublin, Glasgow, Greenock, Newry, and Ardrossan ; Belfast to Bristol, Cork, Glasgow, Dublin, Fleetwood, Liverpool, Stranraer, Waterford, Whitehaven, Plymouth, and London ; Bristol to Belfast, Cork, Dublin, Neath, Newport, Cardiff, Waterford, &c. ; Glasgow to Barrow, west and north of Scotland, Dundee, and Ireland ; Dundee to Hull, Liverpool, London, and Newcastle ; Liverpool to Belfast, Cork, Dublin, Bristol, London, &c. ; Wexford to Glasgow, Bristol, and Liverpool ; and Yarmouth to Hull, London, and Newcastle.

These are some of the regular lines of sea-coasting vessels, and a study of them will show that a traveller can leave London by the river Thames, and by linking and interlinking his lines, reach any port on the coasts, north, south, east, or west.

The various ports act as inlets and outlets for their immediately surrounding districts, and are, as it were, the points of contact between circles, whose outer arcs embrace a sea area, each circle enclosing an inland district equivalent to that described from a point half-way between the port under consideration, and the next acting as an outlet to the north and south, or the east and west, as the case may be. For instance, Newcastle and Sunderland—really equivalent to one port—act as inlets and outlets for produce, covering an area embracing approximately a tract of country lying half-way

between the Tyne and Leith on the north, and halfway between the Tyne and Hull on the south, the Hartlepoons acting as small inner circle distributing centres. The line of the inland arc of the circle varies according to the physical features of the country, but this example sufficiently explains the *working* of produce to and from the ports, which, to use another simile, act as funnels, the goods naturally falling towards the narrow or outlet end.

61. We must now look at the railways acting as inlets to London; *these iron roads have done more than anything else to extend our commerce*, and when we contemplate the present facility of transport at the rate of fifty miles an hour with the stage-coach of the "good old days" travelling at the express speed of ten miles an hour, we cannot be too grateful for the benefits conferred upon our communications by a Stephenson and a Watt.

Not very long ago in Parliament a statesman made use of an "overwhelming argument" in answer to suggestions for extra speed in locomotion. "If we were told by some enterprising man that he would transport us from London to Edinburgh in *seven days*, should we not very properly adjudge his proper place to be a lunatic asylum?" This is very different from the England of to-day, and the *seven hours* or thereabouts required for the same journey.

London is directly connected by leading lines with every part of the kingdom, many of the manufacturing districts having the option of two or even more lines to the Metropolis. London is like the axle of a wheel, the spokes representing the railways which radiate from the centre, where they are, however, not yet all united.

The Great Northern line joins London to the agricultural districts of Hertford, Huntingdon, and Lincoln; the "brewery city" of Burton; the busy centre of Derby; the textile towns of Nottingham, Leicester, Manchester, Halifax, Bradford, and Leeds; the cutlery-shops of Sheffield; the railway centres of Doncaster and York; the great seaports of

Liverpool, Hull, Newcastle, and all north-east ports; and by connections it extends into Scotland, besides giving transit to and from the fruitful vale of York; with Lincoln and Spalding, the "Metropolis of the Fens."

The **Midland line** connects the straw plaiting centres of Luton and Dunstable; the boot and shoe makers of Northampton; the collieries of the Midlands; the textile centres of Manchester, Nottingham, Derby, Leicester, Leeds, &c.; the valleys of the Ribble and Eden; the west coast of Scotland; and the seaports of Fleetwood, Barrow, Liverpool, and the Metropolis.

The **London and North-Western** gives another means of communication between Scotland, the textile centres of the West Midlands, and London; as also the Staffordshire potteries, the "Black Country," all Wales, and Ireland by boat.

The **Great Western** radiates from London through the valley of the Thames, and connects Birmingham, Liverpool, and the busy districts of Ruabon, Worcester, Hereford, and the cider counties; the coal-fields of the Dean Forest and South Wales; the Stroud valley; the central grain markets of Hungerford, Devizes, and Uxbridge; the important ports of Bristol, Plymouth, and Falmouth; the rich mining centres of Cornwall, and the pastures of Devon.

The **London and South-Western** covers the same districts of West England as the Great Western, approaching London by the lace and glove centres of Honiton and Yeovil, the grain centres of Hampshire, Dorset, and Berkshire, and the hop districts of West Surrey.

The south coast ports from Portsmouth to Hastings, the line of country enclosed by the South Downs, and the agricultural counties of Surrey and Sussex are approached by the **London, Brighton, and South Coast Railway**.

The **South-Eastern line** stretches from London through the Weald of Kent, through the "Garden of England," and includes the busy ports of Folkestone and Dover, besides the gayer seaside resorts of Margate and Ramsgate, and also serves the south bank of the Thames.

The **London, Chatham, and Dover** radiates from London *viâ* the hop and strawberry gardens of Kent, and touches the towns of Rochester, Chatham, Sheerness, Canterbury, Maidstone, and the watering-places of East Kent.

While, lastly, the **Great Eastern** line connects Doncaster and the agricultural districts of Lincolnshire, Norfolk, Cambridge, Suffolk, and Essex with London and the north bank of the Thames.

A series of names may not be very interesting reading, but *every student of commerce* and aspirer to the position of a merchant or manufacturer *must have a clear knowledge of the geographical position of one town in relation to another, and the means of transit to and from all parts.* **This knowledge should not be left to be found out afterwards.**

There is now no new industry started or field of work opened but immediately a railway to it is projected.

From this glance at our internal means of communication it is evident that a knowledge of the facilities enjoyed by any country in this particular is of paramount importance to the student of commerce.

62. The aspect of trade in Belgium and Holland proves the benefit conferred by having navigable waterways as well as railways; and **any movements towards improving communications to and from manufacturing or industrial centres, should carry with them the development of existing canals, or the construction of new ones, as well as the extension of railway systems;** "for the facilities of railway and canal, added to the natural lines of communication, intensify the concentration of men on the most favourable and favoured spots."

QUESTIONS.

Pars

- 57-59.—1. What inland advantages for the collection and delivery of merchandise does London possess over other towns, and what others for sea-borne traffic?
- 60.—2. Give a description of the British coasting trade, and point out its national advantages.
- 61.—3. Write a short sketch of the English railway systems radiating from London as a centre.
- 62.—4. Prove by examples of Continental States that completeness of communications by rail and internal waterways is of great commercial benefit.

CHAPTER VIII.

EXTERNAL TRADE.

Par. 63. The outlets from our Metropolis.—64. The position of Liverpool and Glasgow among British ports.—65. Classification of British ports, —66. Analogies and contrasts between Ireland and Holland and Denmark.—67. Classification of commercial outlets.—68. Advantages of an “in-and-out” port.—69. Relative progress of English ports.

63. Outlets are inlets reversed. Goods on arriving in London for further distribution will go out by the roads, canals, or railways already described as inlets; these act as feeders to the great outlet, the river. The shipping of the Thames constitutes the most important factor in external trade. Consider the immense quantity of products of every kind poured into our Metropolis from the various inlets, and the amount of tonnage required to carry off all this merchandise over sea!

London is one of those points where the streams of inland production meet, *to flow further into export trade*; the large and commodious wharves, warehouses, and docks attracting the chief commerce of our country. Much of the varied produce of other lands, also, finds a temporary resting-place in London before being further distributed. Goods coming into the Metropolis for foreign exportation practically all leave by the river, as also over-sea goods inborne; the only exceptions being bullion, specie, and perishable articles requiring prompt delivery. Thus the dairy-produce of Holland, Denmark and Belgium comes in by Harwich and Dover; the fruits and eggs of France by Dover, Folkestone, Newhaven, Littlehampton, and

Weymouth ; while gold, bullion, valuable articles, gems, &c., go out by the same routes—favouring the railways.

London, however, does not and could not monopolise the trade of England, because heavy goods manufactured, as in the Cleveland or Midland districts, require nearer and cheaper means of reaching the sea ; consequently other ports have arisen which assist the working of the Thames traffic, by means of “coasting steamers” bringing in coal, raw materials, manufactured goods, and the products of their own neighbourhood.

64. Let us look at other ports which assist and maintain the commercial movements of England.

Liverpool, by its position on the western coast, attracts most of the American business ; we may, in fact, style it the **central point for American movements in our country**. Situated, too, near the coalfields of South Lancashire, it has ample facility for supplying its own shipping with fuel, and also for the employment of small steamers to carry this commodity to Irish, and other ports. The **chief business in Liverpool**, however, is its **cotton import trade**. Lying close to Manchester and the industrial towns of Lancashire, it is the point to which *naturally* all the commodities required in the cotton manufacture would come. Liverpool likewise pursues a good trade in Canadian and American produce, general goods, and meat ; much of which, however, finds its way to London, the central market, as exemplified by the “meat trains” running between Liverpool and our Metropolis.

Liverpool has risen to the position she holds mainly as an entrepôt and emporium, although a considerable general shipping trade has been added. When, therefore, the proposed deep-water canal between the Mersey and Manchester is opened, and Manchester becomes her own emporium, the conditions of Liverpool trade in the staple import of cotton must be seriously modified.

The shrewd Liverpool merchants, whose intelligence has raised the port to its present prosperity, will have to adapt

themselves to new conditions, and to cast about for ways and means to avert or to recoup loss from this diversion of trade.

Needs Liverpool to decline? Its admirable site and physical advantages, with the normal growth of British commerce, must always keep it as a primary and flourishing port. Already the rapid development of trade in American grain, particularly in Californian wheat, bids fair to fill, if not more than fill, the void left in the Mersey whenever the cotton-bales shall go direct to the loom.

Glasgow is the central commercial city of Scotland, and somewhat similarly situated to Liverpool, being close to the Ayrshire coal and iron fields, and the *natural* outlet for the textile fabrics of South Scotland, just as Liverpool is for the textiles of the Manchester circle.

Placed on the west coast, Glasgow possesses a great advantage over Leith, on the opposite shore, because it gives a free and open course to the Atlantic, and to all the commerce to which that ocean leads; while Leith only opens to the North Sea, giving communication with Northern Europe; or if for foreign trade generally, by the Straits of Dover and the English Channel, a course which means passing Hull and the estuary of the Thames *en route*. These two English ports catch, as it were, all the commerce that might flow to the Forth were they not to intercept the stream.

All merchandise naturally travels the shortest way; therefore Leith contents itself with exporting its own special commodities, iron and coal, and importing Baltic timber and North European goods; that is, Leith catches the stream of goods setting South, while the southern ports arrest the current setting North.

65. Hull with Grimsby, great auxiliary ports to London, lie close to the Midland coalfields and woollen manufacturing districts, besides being railway termini in connection with trans-Channel steamers. The wool which comes into London is drafted off to Hull for distribution to Bradford, Leeds, and

other centres ; while these and adjacent manufacturing circles find an easy means of transit by the Humber.

Bristol was at one time a very important outlet, and still takes a fair rank ; but, labouring under the disadvantages of an approach by a tortuous river, running dry at low tide, it has been “cut out” by ports giving better facilities. Its tobacco-factories, once famed sugar-refineries, and command of western and south Midland goods give it a respectable position among English ports.

Newport, Cardiff, and Swansea do a very large business from the adjacent Glamorganshire coal and iron fields and their attendant industries.

Swansea is the great copper-smelting centre of Great Britain, the poisonous fumes being caught and utilised in the manufacture of sulphuric acid, and, consequently, attracts not only the copper of Cornwall, but the raw material of Chili, and practically that of the whole world.

Newcastle and Sunderland, situated near the great Northumberland coalfield, are useful outlets for the Cleveland district, the chemical and glass manufactures of the Tyne ; while **Middlesbro’** and the **Hartlepoons** act as outlying ports for the extensive steelworks of that district, and for other commodities.

Southampton, as a “mail” port, does not do much *active* business, its chief aim being to **attract passengers** and *goods requiring punctual and rapid delivery* by the mail lines. This harbour does not lie near any industrial field of magnitude.

66. Ireland has many good ports, but the whole resources of the country barely suffice to load a single cargo over-sea once a year. There are, however, openings for remunerative interchange. The cattle, provision, and dairy-produce trades with England are of large dimensions ; but international trade, except to a trifling extent, and chiefly with America, in lace and Irish fabrics, cannot be said to exist.

Holland and Denmark, suffering under disadvantages that Ireland has not to contend against, have proved that any

agriculturist, by steady and intelligent industry, may exchange his surplus stocks to a profit with Great Britain; while the flourishing industries of Ulster and the dairy productions of the south-east show that English workers are quite as willing to exchange their surplus products with the Irish workers as with those of Holland and Denmark, provided only that the return is as good.

Mr. Leonard Courtney says the tide of emigration goes to prove that Irish industries may rise again, for "the outgoing people consist of those labourers little accustomed to anything but unskilled work; this gives a better impetus to those who remain, and also induces an influx of skilled workmen."

English as well as Irish farmers complain of the advantages which America enjoys for dairy-produce, attributing to these the serious decline of their own industry; but no pastures in the world excel their own, or have such near and ready markets; neither do they explain how the small, boggy, and misty plains of Denmark should be able to send produce into almost every market-town in Great Britain and under-sell home-make.

Writing specially upon the **Agriculture of Denmark**, Consul Inglis presented English readers with the most valuable Report on dairy-farms in that country, as it contains illustrations of the interior of a Danish dairy-factory and the principal machines used, as well as tables giving details of winter feeding, milk yield and price, and cost of production. M. Boggild adds, the number of cows in the country is 900,000. As the population is only 2,000,000, there are 45 cows to each 100 people, the largest ratio of which any country can boast. The Report is concerned chiefly with the dairy-factories, about 200 of which, dealing with the milk from 5000 to 6000 cows per day, are conducted on co-operative principles. The rules of one of the co-operative dairies show the minute care exercised in those institutions and imposed on the farmers who supply the milk. Having ascertained the most profitable scale of diet for cows, the associations encourage them to feed their

cows well, payment for milk being in proportion to cream yielded of a given standard. The principal foods given to the cows in winter are clover hay, meadow hay, mangolds, carrots, turnips, corn, bran, oil-cake, and palm-cake. The average weight of corn, cake, and bran per cow per day in twenty-three dairies is 6 lbs. All but six use mangolds and carrots, and all but three hay, both kinds of food being supplied liberally. The average cost of producing 100 lbs. of milk in the twenty-three dairies comes out at 4s. 2½d., or almost exactly 5¼d. per imperial gallon. The cost of food would be much less in summer.

67. We have now seen generally the outlets of Great Britain for external trade, and are able to class them under *six heads*. First, **great central outlets**, with "*in-and-out*" *general cargoes* only, as London; secondly, **central outlets**, with "*in-and out*" *general cargoes and raw material*, as Liverpool and Glasgow; thirdly, **secondary outlets**, where the chief movements are *raw materials outwards only*, such as Sunderland, Newport, &c.; fourthly, **outlets**, or, more properly, **inlets**, ports whose principal business is to *import only*, such as Lynn and Dundee; fifthly, ports that rank as **mail transit stations** and railway termini, as Harwich, Dover, and Southampton; and lastly, **small ports** which act as auxiliaries to the rest, as Warkworth, Workington, Burryport, Falmouth, &c.

68. Goods will always flow to the most convenient centres; and steamships and sailing-vessels favour, when possible, those ports where an outward cargo can be obtained after the discharge of an inward one, without having to "shift ports." It may seem strange, therefore, that Glasgow and Liverpool, which combine all these advantages, receiving and sending out both general cargoes and cargoes of raw material, or Hull and Newcastle, which could equally combine the same advantages, should not outstrip all other ports.

Were it not for the unrivalled facility of inland distribution that London possesses, they would undoubtedly do so; but there are outside influences which affect the current of

trade quite as much as these advantages, which are, after all, more a shipowner's gain than a general one, or one affecting all mercantile classes. These outside influences are: a deep and safe river, floating vessels of any size well into the interior of the country; excellent facility for loading and discharging; the presence of docks, wharves, and warehouses; and, above all, "markets." So long as London is the market of the world, although not having the other advantages pertaining to Liverpool and Glasgow, she may always take the lead.

Almost the only market that London does not possess is one for cotton, this being removed to Liverpool, as the shipping port and exchange, and Manchester, the consumption market; hence hardly any cotton comes to London. Carry this removal further, and suppose that for convenience the wool-market were shifted to Hull, the spices and Colonial produce to Amsterdam, &c., the trade of London would dwindle down to that of a second or even a third-rate port.

69. The practical lesson we may learn is this, that the existence and progressive prosperity of a port depend, first, on its position to tempt the mercantile mariner to enter; then, that it has advantages to offer for quick loading, discharging, warehousing, and redistribution; and lastly, that it can draw sufficient supplies to itself to ensure an outward cargo to be forthcoming when wanted. Therefore, the *prosperity of a good port depends ultimately upon the inhabitants*, as to whether they are enterprising enough to establish markets in their midst, draw produce and producers to them, and thus expand their trade.

Take Liverpool, for example, likely to lose its position as the cotton port and market of England; will its merchants quietly sit down and let the gap widen, or will they strive to divert other currents to fill up the hiatus? This is a more striking instance than most, but the same striving for pre-eminence goes on between other ports. Cardiff, Newport, and Swansea were unknown only a few years ago; Barry did not

exist; now they rank among the important ports of the kingdom; while, on the other hand, Chester, Gloucester, and Bristol formerly took leading shares in England's trade; the first two "have dropped out of the race," and the trade of the last has dwindled away considerably.

QUESTIONS.

Pars.

- 64 and 68.—1. What circumstances contribute chiefly to the importance of Liverpool and Glasgow as commercial ports? Show the business relation of these two ports.
- 65.—2. Name some of the other ports of England in their order of importance; describe their position and their special trade.
- 66.—3. Compare the material progress of Ireland; contrast with that of any European counterpart State.
- 67.—4. Classify the chief ports of the British Isles, and give grounds for your classification.
- 68 and 69.—5. Trace the rise, or the fall, of any of our seaports, assigning such reasons as you are able to give.

CHAPTER IX.

EBB AND FLOW, WITH CIRCULATION OF MERCHANDISE.

Par. 70. Commercial circulation necessary both to production and to distribution.—71. Produce or raw materials flowing in; finished goods or specie flowing out. These movements continuous.—72. Money or cash equivalents.—73. Universality of the “medium of exchange,” with illustrations.—74. Replenishment of “stock in hand.”—75. The effect of commercial activity from abroad upon “passive” populations.

70. As the tides to a river, or a current and counter-current to the atmosphere, so ebb and flow are essential features of healthy national business. If a break occurs, it is fatal for the time being to those near the spot in either direction; on the one hand, staying produce coming in, and thus affecting the original worker; on the other, stopping the return current ebbing out, and thus paralysing the merchant. Take a single commodity—cotton. An Indian or American planter employs labourers, sows the seed, and tends his plants, hoping to reap a plenteous harvest. He gathers the crop, packs the fibre, and consigns it to Liverpool for final delivery in Manchester. He can do no more, and he is reimbursed in cash by the merchant or manufacturer who buys the cotton for his outlay and labour. He repays himself out of the proceeds for the wages he has disbursed, renews “plant” and seed; that is, he replaces capital consumed, and the surplus he holds as profit for future disposal. *Observe how the produce flows from the planter, who draws the raw material from the earth, to the Englishman*

who is to fabricate the cotton as a product of enhanced value, while a current of cash ebbs backwards from the buyer to the grower. Each principal is unconscious of the good he renders the other, being so far removed, and many individuals coming in between; yet every one concerned is benefited by every transaction throughout this course of exchange. At Liverpool the shipowner is paid his charges, and out of the freight he pays his captain and crew. The bales are warehoused, and, at last, sent on by train to Manchester, where some merchant has foreseen a want and ordered cotton, being possessed of the requisite capital. Consider how many separate individuals he helps to obtain the necessities and comforts of life by this transaction. Each one, indeed, as he receives remuneration for his labour, assists the wheel of commercial life to revolve.

But how is the manufacturer to exchange this article, which is still only "raw material," so that he may gain and live?

By changing it into a new product; by the triumph of mind over matter. He passes the cotton on from hand to hand, through carding and spinning into yarn, to weaving, and all the many separate divisions of his trade, until it issues forth as cloth or calico, ready to be bleached and perhaps dyed. All this time it is ever increasing in value, until at last it passes into the wholesale warehouse, and thence into the retail shop, to be bought over the counter by some individual requiring such an article. The requirement is satisfactorily met, the purchaser being prepared to pay the price asked.

71. Thus, from planter to consumer a chain of requirements has been satisfied, from consumer to planter the return current proceeds, and each labourer or participator in the work is recompensed, and a surplus remains.

Supply and demand meet in trade. While the bale of cotton and the return cash ebb and flow, all the workers from one end of the stream to the other are continuously busy. They do not rest when the commodity or the money has passed their hands. Just as running water fills up what

flows by, so in the course of active commerce there is no cessation. Directly the planter has secured his harvest he prepares for a new crop. No sooner does the shipowner complete his voyage than he seeks another cargo. The merchant and manufacturer ever watch for new markets, while the wholesale and retail dealers look for new customers and fresh supplies of goods.

72. Cash has, in this example, been the equivalent for labour, for produce, products, and service. Current coins of the realm pass from hand to hand for agricultural produce, fabricated products, and as the recompense for manual or mental labour. Manufacturers are as willing to take "one pound sterling" for their goods as are labourers for their industry and skill. This "sovereign" carries not only the **recouping power** for each one's industrial gifts, but also **exchangeable value** for any commodity whatever.

73. Cash earned in cotton-spinning needs not be spent among cotton-spinners. Its interchangeable value is as great among bakers, butchers, and professional men as among the mill-hands whence it was derived. Trace further the advantage of this currency or money. Without it, when the cotton-spinner wanted bread, coal, or meat, he could only exchange his cloth with the baker, miner, or butcher, and then only after he had sought till he found producers of these special commodities who wanted his cloth. When the baker wished to exchange his bread for fruit, he would have to go into the market with both loaves and cloth. Business could not prosper so conducted. Such a system would lead to endless confusion if attempted beyond the narrow limits of savage barter. **A medium of exchange is therefore essential to civilised life**, forced upon traders as soon as commercial activity manifests its power. Through all ages and regions this medium of exchange has been known as money.

Take another example. You rise in the morning, require to dress, and to break your fast. What a mass of machinery you put in motion !

In order to dress you have parted with money to obtain flannels, linen, cotton clothing, leather boots, &c. In the wool required for your flannel you have sent the tide of cash ebbing back through your shopkeeper to the wholesale warehouse, the factory of the Midlands, the railway to the Metropolis, the shipowner, captain, and crew who brought the wool from our far-off colonies of Australia, and ultimately to the squatter living up near the bush in the centre of his sheep-runs. You have not only done this direct service, but have enabled each individual in this chain to provide his labourers with cash or wages in return for their labour. They all require, equally with yourself, to be clothed and fed, so that the work you have commenced increases as it goes on, although the same cash or coin has been used throughout.

As with your flannel, so with your linen. Here your money has ebbed back to the Russian peasant cultivating his flax-field on the flat lands near Riga. Your cotton garments have helped a return current to the planter of the South Sea Islands; and your boots, through the shoemaker, the currier, the tanner, and therefore the agriculturist of Greece or Asia Minor, for the valonia or other tanning material, to the owner of herds of cattle roaming the plains of La Plata.

You descend to your meal, and although you may only partake of tea or coffee, sugar, milk, bread and butter, yet in this simple dietary you have given employment to the Chinese tea-planter or the labourer of Assam, the coffee-planter of Ceylon or Brazil, the plantation owners of Demerara or the West Indies, or, perchance, the cultivator of a beet-field in Austro-Hungary, the wheat-grower of India or South Australia, and the dairy-farmer of Holland and Denmark, or of Devon and Ireland.

74. Thus there is a continual replenishing of "stock in hand." The withdrawal from circulation of the commodities necessary to keep up this "stock" demands fresh supplies to fill the void, while all the time the ebb-tide carries back the cash, or commodity value, until the whole transaction is complete.

75. This commercial activity is far-reaching, affecting even the barbarous tribes of Africa and the passive Mongols, who have resisted intercourse and, at the best, have for ages waited to be catered for. The English and Germans are active traders, pushing their wares all over the globe, and seeking interchangeable commodities. They have set the negroes to collect gold-dust and ivory and to grow palm-oil instead of hunting slaves; they have broken down the Mongolian walls of isolation that the exclusive Chinese and Japanese set up, and have spread West and East, to every continent, in the active pursuits of commercial advantages. Thus mercantile States prove to be not only the pioneers of trade, but of wealth and civilisation.

QUESTIONS.

Pais.

- 70 and 71.—1. Show by the familiar instance of cotton the flowing in of raw material and the flowing out of manufactured goods.
- 72-74.—2. What part does money or currency perform in the circulation of merchandise?
- 75.—3. Explain by examples the meaning of "passive" traders, and show how "active" commerce has universal influence, reaching even to the most barbarous tribes.

CHAPTER X.

COMPETITION AND CO-OPERATION.

Par. 76. Competition inevitable, and most severe between members of similar trades ; develops into an intellectual conflict.—77. Consideration of international competition.—78. Competition stimulates intelligence and invention.—79. England's progress excites foreign emulation.—80. Increased intellectual culture, and its influence upon material progress.

76. Equality in all the conditions of work is scarcely possible, for if labourers were to start together as to time and tools, and from a common standpoint of duty, the next day would see a change. Each man strives to do better than his neighbour. As in a race, the line of workers, level at the beginning, would soon extend in single file ; for the industrious will forge ahead of the indolent, the abstemious and pains-taking gain ground on the lover of pleasure, and the intellectual and busy brain eclipse the mere manual labourer or the dull and careless thinker.

Competition is unavoidable, from the most trivial to the most arduous undertaking, and *must be the most severe between individuals the nearest allied in activity, whether mental or bodily* ; it is keenest between the first two or three, who are "neck and neck ;" and the hindmost, who, although they have no chance of the first place, yet struggle to avoid being last.

There can be little or no competition between a dealer in drugs and essences and one who deals only in meat.

It is amongst the individual members of each trade that competition exists, and one trader, or one corporate body of workers, competes mainly with others of similar character.

As long as simple interchange existed—the miner giving coal for bread, and the baker bread for coal and meat—competition could not exist; but as soon as there were *two* miners to offer coal for *one* baker's bread, competition between the miners set in.

But how? In several ways. One miner might offer *more* coal than the other; or one might offer to *deliver* the coal, or might offer a *better quality*, or take pains to supply a *particular* sort of coal, or might allow the baker to have more coal on the *promise* of more bread. In fine, the one would use all his intellectual powers to do better than his neighbour in the race for the necessary loaves of bread.

Hence, **competition** takes the higher standard of a **competition** of intellect, and not of mere manual work. In other words, as civilisation progresses “muscular labour sinks in value and mental labour rises,” and industry becomes really a competition of brain power and intelligence.

Competition is the life of progress, and any bar to zealous competitors hinders by so much the development of commercial activity.

Restriction to competition, that is, to free interchange, warps industrial and commercial growth, and all such restrictions natural laws resent. Look at the endeavour made by the Dutch to restrict the cultivation of spices to their own territory in East Indies. What was this but an attempt to prevent others from trading in and competing with nature's earth-gifts? Nature refused to be thus thwarted, and by the simple law that birds follow their food, she removed the feeble barrier of *protected industries*, and her birds, by feeding in the spice plantations, carried away and deposited in other lands the precious seeds. The result was most beneficial to other people, and had not the disastrous effect upon the Dutch that they anticipated. In public life **mankind as a whole must be studied, and not the individual only**; by benefiting the race the individual will also be benefited.

77. History tells us that at one time one nation was fore-

most, at another time a rival; and we are apt to say such and such a nation declined at such a period, and its competitor rose. The latter statement may be true, but the former is not necessarily so. The fact of a nation leading in any branch, or in commercial life generally, induces other nations to compete; that is, to bend their intellects to secure pre-eminence.

It is not always that the first nation has declined; it was at the top, and has not since moved; it has kept its old pace and place, but the more intellectual peoples have taken a step higher. It was not real *retrogression*; it was simply *non-progression*, and therefore *relative retrogression*. Commerce in its best aspect is continually aspiring to higher and better things.

Having established the necessity of competition, and seen that it must be keenest among allied industries or trades, a step further takes us to **national competition**.

As like trades keenly compete with like trades, so **like nations compete with like nations**. Thus, a nation of mining and textile industries will compete in the markets of the world most keenly with another nation of similar industries.

Although individual may compete locally against individual, and trade against trade in the home-supply, a national competition makes fellow-workers of us all, and induces the best intelligence to come forth.

Home competition strengthens us for competition abroad, just as drill and practising the use of weapons strengthens the volunteer to fight for his country's defence. Against national competitors petty jealousies must be put away, and each trade send its best intellects and its best workmen into the field; for all competition ends in the strongest man winning. *Hence, in every trade, let each man try to be best.*

78. What we are apt to call "accidental circumstances" sometimes place a nation in the foreground. Thus England in the early part of the nineteenth century was enabled to

take the lead in manufacturing industries; the whole Continent was convulsed with wars and tumults; England alone was free from the tramp of soldiery or the fear of a foreign foe, and was the only convenient country whence other nations could obtain their material requirements.

The demand created the supply; but what was of more consequence, and had the most lasting effect, the demand brought forth all the ingenuity and intelligence of the most thoughtful Englishmen; out of the crude elements of the population sprang Watt, Stephenson, Arkwright, Crompton, Nasmyth, Wheatstone, Dr. Joule, Bessemer, and many others; *not all at the same time, but as wanted.*

Invention led to experiment, and experiment to further invention, until the railway lines, the locomotives, the steel steamships, the many machines for production, and the electric telegraph rewarded the "genius of taking pains." England kept her supremacy in the work she turned out; and if all other nations had quietly sat still and been content to accept the crumbs from England's table, no question of superiority could have arisen. It has been charged to England that, satiated with success, she at length did her work mechanically and with less enterprise, so prompting and stirring up competition. It is "stale work always to win;" with many years of plenty seemingly before her, England was inclined, perhaps, to sit at home *awaiting customers instead of seeking them.*

79. Other nations did not quietly acquiesce in this *dolce far niente*, but on emerging from their own war troubles, began to look around. They saw England's position; they knew that they could not compete against her sea-board, but they could buy her machinery and copy it. They could encourage the intellectual powers of their young men, and improve on some of England's implements. It is to a Frenchman we owe the Jacquard loom, to M. Appert the first attempt to preserve meat fresh for any length of time, and to the Germans many triumphs of chemistry applied to industrial

art. Competition of this character was freely open to our rivals, and they availed themselves of their opportunities to such an extent, that unless England develop brain power in equal ratio, by the natural law of the ascendancy of mental force over muscular, she must relatively decline.

There is no doubt that the pluck of the Englishman, and the advantages that he has at home and can obtain by travelling, are great, but he must work to learn and learn to work. "The invasion of mechanism into what formerly appeared the domain of human labour extends every year, and has within the last century given us a new and clearer insight into our place in creation. The apprenticeship of toil and suffering which man has endured for ages appears, in the light now shed upon the world by mechanical genius, as but a preliminary step to higher conditions of being."

Competition has displaced the sailing-vessels of old days, with their uncertain movements, for the stately steamships, arriving at their various ports with the regularity of a time-piece. It has changed the *Comet* of the Clyde into the "Atlantic liner;" it has improved sea-transit by the economy of fuel; for whereas, not so long ago, it took fourteen or fifteen hundred tons of coal to drive seven or eight hundred tons of cargo across the Atlantic, now it only takes three or four hundred tons to drive three thousand.¹ This economy of fuel has also led to economy of labour; the workers on board a steamer are little more than half what they used to be; yet the enlarged "service" employs many more "hands" in all, and this is the result of competition.

80. Intellectual competition has raised an apparently useless bye-product of coal, namely, coal-tar, into high commercial favour; for science is able to draw from this apparently unlikely source the most beautiful dyes and the sweetest "saccharine," with numerous other products.

The triumphs of science, of mind over matter, should induce every Englishman to seek a place in the ranks of the intelli-

¹ See Sir L. Playfair on industrial competition.

gent and intellectual workers ; to imitate their diligence, their care, and their forethought. *There is room for everybody in industrial or commercial life.* The question is to find the right place.

Agriculture itself must feel a great change through the continued improvements that are introduced. "The farmer," says one authority, "must abandon the system of exclusive or domestic manufacture, for other countries learn the lesson we inaugurated, that mechanical inventions replace unskilled labour on the land."

QUESTIONS.

Pars.

- 76.—1. What are the causes and what the consequences of competition in the work of production? In what divisions of labour does competition exercise the keenest influence?
- 77.—2. Show in what manner the spirit of competition spreads from individuals to nations.
- 78.—3. Trace the course of British pre-eminence in the arts of production.
- 79 and 80.—4. Describe the industrial rivalry of Continental States, and the influence of their means of mental culture upon their material progress.

CHAPTER XI.

MIGRATIONS AT HOME AND EMIGRATION ABROAD.

Par. 81. Causes of industrial migrations.—82. Consideration of the above ; special industries lead to special adaptations.—83. Congregation or dispersion of labourers in relation to the means of subsistence.—84. Geological structure and climate in relation to industrial migrations.—85. Counterpart industries in England and Europe.—86. Migration, if extensive, merges into emigration ; the laws seemingly controlling emigration.—87. The “tide” of emigration.—88. America and the British colonies as emigration-fields.—89. Classification of our colonies.—90. India ; the value of our several colonies to emigrants.—91. The importance of colonial emigration.

81. What do we mean by home migrations ? *The shifting of capital and ability—of power of work—from one place or one occupation to another.* Thus, people leave the country to work in the towns, or they leave the sphere of town work for that of the country.

There is a constant circuit of change going on ; but, from the fact that our town population is now two-thirds of the whole people, though at the beginning of the century it was only one-third, *migration has been chiefly from the country to the towns.*

The principle that “so soon as labourers in the hive of industry begin to crowd and interfere with one another some of them ‘swarm off’ to fresh employments ” is very apparent in agricultural districts. Land is not an elastic commodity ; it will not expand to meet an increase of people. The reverse is, indeed, the case, for as the areas of towns and cities enlarge they encroach upon the country. *Only a limited number can*

draw a living from the land, and scientific culture, while increasing produce, lessens the need of labourers.

82. The most intelligent farmer, the most industrious labourer, will, by the weight of superior attainments, displace the illiterate or ignorant man; there will be an outflow of unskilled labour into some other scene of industrial life.

Perhaps, of those growing up in the country, some may develop a *genius* for town work. One takes a fancy for railroad work or for engineering, one for chemistry; some for one thing, some for another. Such youths are constantly looking out for an opportunity to employ their talents in the towns. Hence they migrate and leave room for others; they represent love of industry incompatible with its surroundings; as the more intelligent worker matures he leaves his birth-place for a better work-place, or a more remunerative one.

Movements in towns are similar. Some men desire one trade, some another, and they move to the best centres; that is, to centres where they can obtain the best value in exchange for their talents.

Other causes of migrations which occasion a "rush" of labourers are the development of a new industry, the discovery of some fresh earth-gift, or "a new appreciation of previously unrecognised facilities for the application of more efficient processes of labour." The steelworks of Middlesbro'-on-Tees are an example of the first, the opening of the coal and iron mines of the Midlands represents the second, and the cotton industry of Manchester well proves the third.

83. The concentration of labourers on particular sites for special industries caused the rise of towns, and this concentration is maintained by the influx of labourers from the country; for the greater variety of employment in towns furnishes a field for the gifts of the most skilful; while the unskilled labourer on the lowest rungs of the industrial ladder is able to pick up, at least, a precarious livelihood.

There are seasons of migration, too, when there is an exodus from the towns to the country, and also from one part of

the country to another, and this chiefly of unskilled labour. Thus, during our English harvest many Irish used to come over to help in the fields, and during the hop harvest the Metropolis sends many labourers into the "gardens" of Kent and Surrey.

Facility of transport aids migration. In olden times the difficulty of "getting about" was a serious bar to commercial development. Now nearly all places are "in touch," and genius needs not be hidden away in a country village.

Where individuals find constant employment there is less inducement to migrate; hence we find that our large cities keep their population with its natural increase, which is added to by absorption from the country. One city may change its workers with another city, but this migration is more on the score of convenience than anything else, and does not materially affect the stationary character of the population.

Many agricultural industries formerly carried on in the country are now performed in the towns. Among these may be classed the making of agricultural machinery and the "milling" as contrasted with the grinding of flour. "The internal movement of the people is thus associated with and in part produced by a shifting of occupations, implying as much a decline in the opportunities of occupation in one direction as an increase in them in another."

There is a law in migration, as in every other movement, namely, that *people are scattered or massed together in strict relation to the means of subsistence*. Withdraw the occupation, the people dwindle away; open up a new field, it is immediately occupied. Taking any country or county generally, we may draw the conclusion that **where there is no migration there is no advance, and where there is no advance there is retrogression**. It is impossible to "stand still," for this means a sinking of all intellectual desires, and consequently being left behind the age.

Other countries in which the conditions of labour resemble our own send us their surplus labourers; hence the large

number of immigrants that we welcome annually. We employ many foreign seamen, bakers, clerks, shoemakers, tailors, &c.; while our Cornish miners find homes in Australia, as Welsh colliers do in Pennsylvania. If wanted, well-skilled labour is soon at home anywhere.

84. The character of the soil very much influences the nature of the occupations of the inhabitants; therefore it is well to consider foreign soils a little, as well as our own. Industrial pursuits and geological structure are closely allied. The *coal-bearing* strata induce labourers to undertake mining and industrial work requiring fuel, the *Cambrian slate-rocks* support a quarrying people, while *rich alluvial lands* delight the farmer. Where proper clay abounds, pottery and pipes are made. If we consider the geological structure of any country that is similar to England we there find analogous industries. Thus the rocks of **Normandy** and **Picardy** are *identical* with those of our **midland** and **southern** counties; we should then, by analogy, rightly infer that the inhabitants are agriculturists, the chalk-cliffs occupied by pastures, the limestone of the oolite forming arable soils, and the clays yielding a variety of crops, and we see that this is exactly the case. Again, **Belgium** is equivalent to **South Wales**, or to the **Staffordshire** districts, and the industries are similar. **Saxony** is analogous in structure, and the occupations of the people similar to those of **Devon** and **Cornwall**, whilst the higher ground of the **Erz-Gebirge** produces an industrial circle which is a counterpart to that of **Manchester**.

The well-defined floral or botanical zones of the United Kingdom have their counterparts in other countries where similar growths prevail. Thus the south and west of England, the Channel Islands, and the south-east of Ireland are similar in yield to Normandy and Brittany in France; the characteristic growth of this, the "**Armorican**" district, being pastures and orchard fruit. South-West Ireland, Cornwall, and Devon are analogous to North Spain and Madeira; this "**Iberian or Asturian**" zone yielding evergreens, myrtles, &c.

North and Central Ireland, Central England, and the Scotch Lowlands—the “Germanic” belt—are similar to Germany and Mid-Europe, and have characteristic growths of deciduous trees and vegetables; while the extreme north of Ireland, the Scotch Highlands, and the English Lake district have their representatives or counterparts in Sweden, Lapland, and the Alps; this is the “Boreal, Arctic, or Scandinavian” zone, with fir-trees and berries. Throughout each zone in each country we have analogous industries, and people ready to migrate.

85. Tracing analogous industries, we find in France coal, iron-mining, and attendant industries in the north-east and south centre chiefly; St. Etienne and the adjacent circle, and the district round Valenciennes, remind us of our South Wales industries and those of the Midlands.

In Belgium, the country between the Sambre and the Meuse resembles the Staffordshire “Black Country;” while in Germany, the Rhine valley, in the neighbourhood of Elberfeld and Essen, are counterparts of the industries of South Lancashire and Birmingham. North-West Austro-Hungary, round Brunn, and South Central Russia also reproduce similar features and modes of industry.

Occupations so like have necessarily caused towns and cities similar to our own centres to spring up. Thus Dudley and Wolverhampton find their counterparts in Liège and Namur in Belgium.

Namur and Charleroi represent Birmingham in their hardware manufactures. In France, St. Etienne is that country’s Birmingham; Thiers represents Sheffield; Manchester finds a counterpart in Rouen; Nottingham in Valenciennes; and Macclesfield and Coventry in Lyons.

In Germany, Essen reproduces Birmingham; Düsseldorf, Merthyr-Tydvil; while Chemnitz is the Saxon Manchester, and Meissen the German Worcester.

In Russia, Tula is the Birmingham of that country. In Austria, Brunn represents Leeds; and Trautenau is a counterpart of Dunfermline in Scotland.

These examples might be almost indefinitely prolonged, and carried through industries analogous to our glass, chemicals, gloves, stockings, and every other manufacture; but enough!

Where geological structure and similar climatic conditions prevail, there, if the inhabitants are progressive, must we look for analogous industries for migratory movements, and consequently for competition.

Against this competition we have to arm ourselves. Were interchange restricted to Europe our commerce would be small, for people do not want to exchange what they have already for similar commodities. It is in the open markets of the world that our goods have to hold their own against goods from other countries.

86. When the desire to compete encourages migrations at home or between adjacent regions, and leads to an influx of labourers beyond proportion to the means of subsistence in any new locality, *further migration becomes inevitable.* No more room may be available in the home-country or in the adjoining States, hence more distant places will be sought for settlement. Thus it seems that **overcrowding is the first cause of emigration.** The stress of population as an incitement to emigrate is, indeed, a fact as old as history. The emigrants will clearly consist of two classes—the more or less unskilled labourers, who cannot find home occupation, and the dissatisfied, who wish to seek a wider field and larger returns for their labour; the first class being only limited by want of means to make the change, and the second increased by the prospect of more remunerative labour. Labourers satisfied with doing well at home will, as a rule, rest content; though many of the most enterprising, swayed by the attraction of similar employment, the prospect of profit, or the discovery of new resources, are drawn away.

A mine may open in Australia, Canada, or elsewhere; experienced miners immediately think they can carry their knowledge and skill abroad, and gain more by their labour than at home, hence they emigrate. The same occurs in agri-

culture and the textile industries. Bombay cotton-mills draw skilled labour from Manchester looms. *While emigration takes labourers from England, it leaves more room for those who remain at home;* and while it helps on the commercial advancement of the colony, it reflects benefits on the mother-country. What is good for the child must be good for the parent, as commercial intercourse is always greatest with kindred language and blood.

Emigration also partakes of a speculative character. Gold-fields are reported from Australia, diamond-mines from the Cape. A rush of workers, possibly idlers, anticipate taking a short cut to wealth. Most are disappointed, and for the time being they flood the colony, to its detriment, with dissatisfied and unsettled "settlers." Many, however, after the mania subsides, become permanent colonial residents, and by the peaceful pursuit of industries suited to their surroundings find a better return in the development of the soil than in the capricious yield of gold and gems.

Turn to the lands that bid for emigrants. Which offer the best inducements to labour or promise the fairest field for "getting on"? In those of small area and large population the movements of the people will be similar to those in England, and for a similar cause. Hence it would be useless for our people to go to most European countries. **Norway** receives no proper immigrants; migration from the country to the towns has been phenomenal there, hence the tide of emigration began to flow. **Sweden** exhibits the same movements.

Germany is overflowing with men who are well educated in commercial life, and we find the Germans emigrating to every land, and by their linguistic and mercantile ability obtaining employment wherever they go. They are, however, more strictly migratory than emigratory; for in many, if not most, countries the German only attaches himself for a time, learns all that is to be learnt, and then returns to his native land.

87. The tide of humanity has apparently ever swept to

the westward, and *now* we find the **United States, Brazil, La Plata, Canada,** and **our other colonies** offering various inducements for Europeans to emigrate, and drawing the largest numbers. The miner would hardly seek the hunting-grounds or the pastoral lands of the north-west territories of Canada, nor would the farmer seek the mining localities of the United States, but each that district best suited to his capabilities. Let us examine some of these countries.

With regard to **South America**, the tide of emigrants sets more from the south of Europe than from the north; **Portugal** contributes many hands to **Brazil**; **Italy**, also, both to **Brazil** and **La Plata**. **Italians** go out for season-work and return, though some take up their abode abroad, but the stream is one of ebb and flow.

88. The **United States** invite settlers from all parts; the marvellously rapid growth of some of the American cities shows how emigrants have settled and thriven in them.

“The chief movements have been nearly uniformly westward along the thirty-ninth parallel of latitude. **The Germans** spread from New York and Pennsylvania westwards to Illinois and Iowa, four-fifths of the whole being found in the north central division. **The Irish** remain more to the east, flowing from New York to the southern part of New England. **The Norwegians and Swedes** seek homes akin to those they have left, in Minnesota, Wisconsin, and Illinois. **The British Americans** are arranged in the States confronting their native provinces from Maine to Michigan; while the **English and Scotch** seem to have spread themselves abroad more widely than any other immigrants.”¹

Further, the **Irish** favour the big cities, the **Scandinavians** the smaller towns and country. Of the **Germans**, more than half avoid the large cities, and three-fourths of the **English and Scotch** attach themselves to country districts.

The value to the United States of these immigrants is “that *they become consumers of domestic manufactures, and are useful*

¹ L. Courtney.

as labourers; and not that they become workers in protected industries." This, then, is the bribe held out by the States, and we can understand the current of population from the above survey.

Let us now look at our own colonies; *for it is to these, if we part with men, we should like to see them go.* Then England needs not lose sight of them; they assist and are assisted by their brethren at home.

Our colonies, according to Dr. Forbes Watson, are divided into three distinct classes, with special functions.

89. First, colonies that are trading-stations or entrepôts; secondly, plantation colonies, equivalent to manufacturing establishments, as the first to commercial agency; and thirdly, agricultural, pastoral, and mining colonies. To these we must add a fourth, store depôts—colonies or dependencies for the supply of ship's stores, or as military settlements. Mr. Ramsome calls these last, "connecting-links" between the colonies proper and the mother-country, and he says: "The importance of the connecting-links depends upon their position, and cannot be at all estimated by an examination of the chances they give for emigration or trade."

With regard to the first, the territory is small, and the population in consequence limited. Their value to England consists in their being stations for supplying the populations of surrounding countries, who are then, of course, the real consumers of English products. In these colonies the trade must be altogether out of proportion to the population; that is to say, the gross value of these possessions to England is not represented by the consumption of the inhabitants themselves, but by those of a large area of people of other nationalities.

For value in our commercial transactions these colonies head the list. They are entirely commercial and mercantile; hence the inducements offered to emigrants will only tempt the commercial man, the merchant, the shipowner, and the sub-workers in each of these businesses, and not the mere

manual labourer. Intellect, mainly, is useful here, the chief business being "agency."

Among these "trading-stations" we include **Hong-Kong**, supplying China and neighbourhood; **Singapore**, the gate between the East and West; **Labuan**; the **Gold Coast**; **Sierra Leone** and **Gambia**; and **Aden** for East Africa and South Arabia. Emigration to these stations is chiefly resorted to for a time by merchants who settle a few years only for the purposes of trade.

The second class is very valuable, and draws emigrants who are skilled labourers rather than unskilled, such as planters, clerks, overseers, and artisans. Although the work is strictly agricultural, still it differs much from that in the third class of colonies. The produce, which consists mainly of sugar, rum, tobacco, coffee, spices, &c., requires much skill, capital, and many chemical and mechanical appliances and operations before it can come into the market as saleable. We are therefore right in looking upon these in the light of manufacturing colonies.

These, because of their extra requirements, offer more inducements to emigrants than the previous class, because "a manufacture requires a larger amount of skilled superintendence than the conduct of a 'commission agency;'" but even here, as we have seen, the demand for workers is limited. Among these colonies we class the **West Indies**, **Bahamas**, **British Guiana**, **Honduras**, **Mauritius**, and **Ceylon**.

Turning to the third class, in which are included **South Africa**, **Australasia**, and **Canada**, we come to the most important of our colonies as far as emigration is concerned, taking our agriculturists, miners, merchants, skilled artisans, and manual labourers, with also a great number of unskilled workers. In these vast tracts of country there is employment and room for all, and as transit facilities are pushed forward, every mile of railway opens out a tract of country which would otherwise take years to develop, and settlements,

ever tending more and more inland, induce the laying out of additional capital in railway enterprise.

In the fourth class we find Gibraltar, Malta, St. Helena, the Falkland Islands, &c., but these are really not applicable to emigration. Business, where it exists, is essentially mercantile, and the individuals sent out expressly from England to see after it act entirely under home orders.

90. Our great dependency of India represents all four classes of colonies : there are the trading-stations of Bombay, Calcutta, &c. ; the plantation stations of the Neilgherry Hills, Gangetic valley, &c. ; the pastoral, mining, and agricultural stations of Assam, Mysore, and Burmah ; and dépôts for stores in Point de Galle and Colombo in Ceylon.

The native population, however, who do most of the manual labour, deprive India in great measure of being a field so well adapted for the ordinary emigrant, while the climate also operates against him.

With these various colonies, dependencies, and possessions representing each branch of business at home, and with the unlimited resources of those of the third class ranging through the products of every zone, and enriched by mineral wealth, England and her colonies become mutually self-supporting.

Oceans, instead of barring intercourse, now bind nations and countries together, and with free communication, even were England cut off from all other commercial intercourse, interchange between herself and her colonies would provide resources for the whole population of Great and Greater Britain.

The trading-stations take our manufactures, *but return us nothing except what they have in store as entrepôts from other countries* ; the plantation colonies employ some of our men, take our manufactures, and *return us the wealth of a tropical climate* ; but the third class of colonies takes our men, offers them unbounded employment, buys our productions, and *returns us produce of rare value*. For instance, the wool-trade is virtually supplied by Australia and the Cape. India is

"cutting out" China with tea; Ceylon is a fruitful land for both tea and coffee; the West Indies yield us sugar; India, again, can supply us with spices, dyes, and wheat; while Canada and Australia can provide unlimited supplies of all food-stuffs.

91. Thus, when overcrowding takes place at home, or the skilled labourer seeks a better exchange for his labour, by studying the capabilities of the various colonies, each man should, by his emigration and the intelligent use of his abilities when arrived in the colony, benefit himself and his family, and as he benefits himself, the good will reflect upon the mother-country, for his labour is still an important integer of the whole Empire; he is not lost to us, but rather all are closely bound each to the other, in bonds of mutual interest.

QUESTIONS. .

Pars.

- 81 and 82.—1. What circumstances conduce to migrations of labour?
Show how such migrations operate upon our home population.
- 83.—2. Define the chief industrial causes of labour migrations, and account for the tendency of towns to increase and of agricultural districts to decrease in population.
- 84 and 85.—3. Describe some European counterparts of British industrial districts, and show also their correspondence in geological and climatic conditions.
- 83-86.—4. Under what circumstances do our home migrations of labour merge into immigrations of labourers from abroad, and into emigrations to our colonies or foreign parts?
- 87.—5. Show how the expression, a "westward wave of emigration," applies between the Continental States, as well as to the United Kingdom and the various regions of North and South America.
- 88-91.—6. Classify the British colonies and dependencies, and examine their economic importance to the mother-country.

CHAPTER XII.

COMMERCIAL SITE OF THE UNITED KINGDOM.

Par. 92. Actual and relative position of the United Kingdom; Greater Britain.—93. Structure of the English south coast analogous to that of Northern France.—94. Our principal industries in close conformity with physical conditions.—95. Unique commercial position of the United Kingdom.—96. Colonial and foreign commerce; “trade follows the flag.”

92. The United Kingdom must be considered from a two-fold point of view; there is its *actual* physical position, as “the islands of Great Britain and Ireland,” representing an area of nearly 121,500 square miles; then there is its *relative* position, by virtue of its colonies, possessions, and dependencies. “Greater Britain” covers about one-sixth of the land surface of the earth; or, as Mr. Cyril Ransome puts it, “for our one England at home we have sixty-five Englands abroad, as large at least in size. *Were the whole world, except our colonies, closed to English ships, there is no product of nature which could not be supplied by one or other of our trans-oceanic possessions,*” or “*any article of manufacture which it would be out of the power of one or other of them to learn to make.*”

Our insular position gives us a well-defined frontier, an invaluable security for trade. This security, again, has a beneficial effect upon our industry, as well as favouring our accumulations of wealth.

93. England and Scotland are pyramidal in structure, the narrow end running into the north, and the broad end spread-

ing out towards the south. Our southern base is physically analogous to Northern France; hence we find a close connection in the habits, manners, and culture of the two peoples.

"It would be entirely different were the south geologically formed as the north end; instead of sympathy there might be antipathy, and the mutual interchange with Europe would not exist. Probably no other equivalent extent of land throughout the world is so favourably situated for all purposes of maritime commerce as the British Isles."

94. "England is an epitome of the geology of almost the whole of Europe; very few known formations are absent, and what are not present are of secondary importance."

Only in agriculture are we deficient, or unable now to supply our requirements. Our land produces little beyond the bare "necessaries of life." Farm products are varied according to localities, but everywhere limited. We cannot add land to our home, and though science applied to farming has recently more than doubled the produce of the soil, yet the population has increased in so much greater ratio that we relatively grow less than formerly.

Some soils in the United Kingdom and some situations are productive of certain peculiar fruits or plants which cannot elsewhere be profitably raised. We should misemploy time and labour by trying to grow the sugar-cane, the tea-shrub, or coffee-plant, for which our climate is unsuited; but by our commercial "connections" we avail ourselves of all the facilities of production given by Providence to different peoples and soils.

The inter-dependence of countries knits and binds nation to nation. Commerce incites to industry, distributes the gifts of nature, of science, and of art, thus enabling each country to profit by the inventions and discoveries of all others, as well as by those of its own.

Instead of trying to do impossibilities, we have turned our attention to those manufactures for which the abundance of coal and iron, and the nearness of our industrial sites to the

coast, have given us an advantage. *Every labourer should do the work for which he is best adapted.* Our aptitude for shipbuilding and manufactures—industries that yielded the best return—led to the advancement in these arts coincidently with the depression of agriculture, the one reacting upon the other.

95. Our physical position is so good, our harbours so safe and commodious, that we attract cargoes passing up the English Channel—a maritime route growing more important every year to the world while the most civilised States congregate in Western Europe. Contrast the harbours on the Continental side with our own. From the mouth of the Channel to the Helder there are only three accessible to vessels of large tonnage, namely, Havre, Antwerp—up a tortuous river—and Rotterdam. On the English side there are many, easy and safe, influencing the current of trade to set to our shores.

Secondly, England is a halting-place, a maritime caravansary, as it were, for the traffic between Europe and America; hence merchandise destined to and from the New World finds passage *viâ* England.

Thirdly, we retain in an appreciable measure the advantage obtained in the early part of the century of England's opportunity, when we took the lead in manufactures, and neighbouring States during their own intestine strifes were compelled to come to us for goods. The purchase and sale of these products brought fresh raw material and strengthened England's hands. We received the earth-gifts of all climes, and returned our finished wares.

A very important element in what has made England the trade-centre of the world is her foreign and colonial possessions. From our own family, as it were, we have been able to draw the necessaries, comforts, and luxuries of life for ourselves. Our men went out to work, and thrive; they thought, on leaving home, that the mother-country would take all the produce they could raise, and would give a fair

exchange for it in the things they as settlers abroad would require. Their object was to open out a new country; all their time was occupied in preparing the land; they had no means of manufacturing or procuring tools and other necessaries. Thus began very early an interchange leading to extensive commerce.

96. Our colonists required agricultural implements, clothing, boots and shoes, besides the thousand articles that constitute the "necessaries of life." We, again, wanted more wheat and other cereals; more wool for our woollen manufactures; more dyes, spices, hides, to enable us to support ourselves and to fulfil their requirements. So by an interchange of fair equivalents we and they benefited each other.

Thus the tide of commerce between England and far-distant parts began to flow; similar demands and similar supplies came to each country in turn, until England, the "august mother" of colonies, as well as "of empires," collected within her borders the richest produce of every clime where she had a "son" at work.

If our commerce went no further, it would be enormous, and would make of England one of the greatest commercial nations in the world.

Our commercial life does go further. Most of this merchandise obtained from sixty-five-fold England is **British produce**. Other nations, our Continental neighbours, are as anxious as we for increased comforts and luxuries. But no country in the world has such possessions from whence to draw them; neither has any nation such a navy of merchantships with which to convey the produce.

Hence, seeing all the colonial produce, all the riches of the Antipodes, the Dominion of Canada, and the tropics poured into our lap, strangers come to England either to buy what they want or to ask England to fetch it for them, both being profitable undertakings for the Englishman.

More distant countries, producing abundance of raw material, observe neighbours progressing by disposing of their surplus

produce to England, and by receiving in return articles they themselves want; they therefore try to do likewise. *They get English vessels to carry their raw produce to England, hoping to find a market for their goods.*

See how the cotton of the United States now exceeds nearly all other importations of this one commodity. Cape cotton, at one time a considerable growth, has virtually died out. America has competed successfully, not only with the Cape, but even with Egypt and India, aided as much by their active enterprise as by singularly favourable conditions of climate and soil.

England's markets are filled with the produce of all regions; her vessels interchange services of transport, either by carrying raw material direct from foreign lands and by returning British manufactures, or those of other countries, to far-off nations. Whether we compute the might and influence of the United Kingdom by its warehouses, markets, or manufactures; whether by its mineral resources, or the superiority of its workers; whether by the magnitude of its wealth and capital, or by its colonies and vast mercantile marine, we testify to commercial grandeur unparalleled in the present or the past.

Regarding our colonies in another light, they are really "new markets," at our doors, bound to us by kin and speech, and by like manners, tastes, and customs. By our receipts from the colonies we manufacture for all the world; and as competition enables other countries to do with fewer manufactures from England, where are we to look for our permanent and best customers with so much confidence and certainty as to our own flesh and blood? **Colonial trade is safer and steadier than ordinary foreign trade.** The family relation between mother and offspring promotes kindly feeling and results in reciprocal commerce, always growing and mutually beneficial. "Trade follows the flag."

QUESTIONS.

Pars.

- 92-94.—1. What circumstances, physical and political, conduce to render the United Kingdom the trade-centre of the world ?
- 94.—2. How does commercial intercourse promote the inter-dependence of nations ?
- 95.—3. In what respects is England better placed than the Continental States for the pursuits of commerce, and how have her physical advantages been aided by political events ?
- 95 and 96.—4. Generalise the trade between England and her colonies, with a view to the benefits that mutually accrue.
- 96.—5. How do the results of our colonial trade influence foreign nations in their intercourse with the United Kingdom ?

CHAPTER XIII.

OUR GREAT OCEANIC COMMUNICATIONS.

Par. 97. The mercantile marine of England ; considerations of speed.—98. “Breaking bulk” a disadvantage to international transport.—99. Ubiquity of the British flag.—100. Protection for the merchant service ; the navy ; coaling stations ; store depôts.—101. Classification of the great ocean highways ; the American lines.—102. The Eastern lines *viâ* the Suez Canal and the Cape.—103. The Western route *viâ* Cape Horn.—104. The West Indian line ; the Panama Canal ; England the carrier of the world.

97. The resources of England abroad depend upon her means of transport. “ England has to rely upon her ships to bridge the waters, and to obtain from more favoured climes those products which the necessities of her population and the demands of their industrial arts incessantly call for.” Vessels have been built and improvements introduced, until steamers cross the ocean in all directions, bidding defiance to wind and tide, leaving port and arriving at their distant destinations almost to a regulated hour. *England possesses more than half the merchant service of the world.* In order to keep our supremacy we have a fleet capable of carrying all cargoes. The telegraph has placed a girdle round the globe. Transactions that once took months are now completed in as many hours. Still, it is necessary for letters and documents to pass, and, besides, the trade in perishable commodities depends entirely on speed for delivery. Think of the cost of one of our big liners at sea ! Considerations of speed are of the utmost importance ; yet speed itself is the chief element of expense.

98. *Our insular position, though an inducement for our men to become seafarers, entails one disadvantage, inasmuch as all our external transactions must be maritime.*

Our mercantile movements must be, as it were, entirely on the outside of the coast circle, while those of our neighbours may, by reason of their land frontiers and a system of *international* communications, be both external *and* internal. In other words, we cannot reach inland countries without shipping, transshipping, or discharging; while the foreigner can do so.

For instance, Germany or Switzerland requires certain silk manufactures, which either England, France, or Italy can supply. England is compelled to ship the goods from one of her ports, transport them to Hamburg or some other German, or perchance Belgian, port, there discharge, and forward them by rail or canal to destination. France or Italy, on the other hand, can put the case of goods into a train at Paris or Turin, to be conveyed *direct* by international railway.

Every transshipment increases the price of the article; therefore to "break bulk" is a certain disadvantage to our commerce; but, on the other hand, it gives increased demand for our merchant service.

99. Over-sea trade is the backbone of our maritime supremacy, both as merchants and the world's carriers, but with the long intricate lines of communication to the various colonies and elsewhere, our responsibilities are exceptional, as depicted in the following (American) sketch:—

"I pray to know where you will go that you will not meet the flag of England fixed, planted, rooted into the very earth? If you go northward, it waves over half this continent of North America, which we call our own. If you go southward, it greets you on the Bermudas, the Bahamas, and Caribbee Islands. On the Falkland Islands it guards the Straits of Magellan, on South Shetland Island it watches the passage round the Horn, and at Adelaide Island it warns you that you have reached the Antarctic circle.

“When you ascend along the south-west coasts of America, it is seen at Gallipagos, overlooking the Isthmus of Panama; and having saluted it there, and at Vancouver, you only take leave of it in the far north-west, when you are entering the Arctic Ocean.

“If you visit Africa, you find the same victorious cross guarding the coasts of Gambia, Sierra Leone, and St. Helena. It watches you at Cape Town, as you pass into the Indian Ocean; while on the northern passage to that vast sea, it demands your recognition from Gibraltar as you enter the Mediterranean, from Malta when you pass through the Sicilian Straits, and from Cyprus as you proceed to the Levant. At Aden and Perim it guards the passage from the Red Sea into the Indian Ocean.

“Wherever Western commerce has gained an entrance to the continent of Asia, there that flag is seen waving over subjugated millions; in India, Burmah, the Straits, Singapore, and Hong-Kong; while Australia and nearly all the islands of Polynesia acknowledge its protection.”

What a picture of our world-wide commerce, and to keep in touch with all these possessions what an immense fleet of merchant-ships must be required!

The days of England's old East Indiamen, Australian and China clippers, are gone. Then, the harvests of the various climatic zones were the signals for maritime movements; but now, when harvests ripen in some one possession or other all the year round, and when huge warehouses store the produce, waiting convenient distribution, they are but little counted. The steam-engine has reduced all commercial movements to a time-table of mathematical precision.

100. This vast work of our merchant service requires two very important auxiliaries. First, it needs security, and this is obtained by our navy; magnificent men-of-war patrol the seas, guard the courses of our merchant-ships, and are ready at a minute's notice to support the colonies. Secondly, as these possessions lie so far off from the mother-country, it

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is necessary to have resting-places and harbours of refuge reaching from England to the farthestmost shores, represented by the colonies of the fourth order named in a previous chapter. They are either arsenals, garrisons, coaling-stations, store depôts, or repairing yards, and they line the roads along which trade has settled.

A single instance shows their utility. We do a vast trade, as carriers, in the Mediterranean and Black Seas. Were any accident to happen to a vessel on passage, or should she run short of coal, there are Gibraltar and Malta for the vessel to put into, and both British possessions.

These "calling-stations," with stores of fuel, which in long voyages would otherwise run out, have enabled various "liners" to make the run from London, Liverpool, and Glasgow, or Southampton, as mail ports, to our colonies or other trading places.

"Regular liners" are the "general cargo" boats we have already drawn attention to. Smaller lines of traders run from English to general European ports, or are simply trans-Channel boats. Besides the host of "seeking" vessels of our mercantile marine, these last are the general carriers of the world. *Wherever a cargo is expected, you will generally find a British vessel lying ready to bring it; wherever a cargo is waiting, there is a British ship ready to load it; thus, being always prepared, we are able to retain the supremacy of the sea.*

101. Our great ocean highways may be classed under five heads: (1) across the Atlantic; (2) to the East by the Suez Canal; (3) to India, Australia, and the East *via* the Cape; (4) to the Pacific, Australian, and West American ports by Cape Horn; and (5) to the West Indies.

All these lines run directly to our colonies, and there are also subsidiary lines branching off the main routes to important "trade-centres" of other countries.

First, across the Atlantic. Lying some two thousand miles away is our colony of the Dominion of Canada. This territory,

stretching from the Atlantic to the Pacific Ocean, attracts several of our large steamships which run between Liverpool—our Atlantic port—Quebec, and Montreal in the summer season, and to Halifax in Nova Scotia in the winter-time.

There is no land between Ireland and the American continent; consequently it is impossible to coal or store vessels *en route*; steamships are dependent on the resources of the countries at either end for their supplies. In this instance there is no difficulty; the scientific improvements by which fuel is economised facilitate the operation; an abundant supply of steam-coal is obtainable on this side from the South Lancashire coalfields, and on the other from the deposits of Nova Scotia and New Brunswick; and coaling and victualling stations are opened likewise at Halifax and Sydney (*Cape Breton*).

The commerce covered by this route is extensive, embracing, besides the riches of an agricultural district rendered fruitful farther west day by day, the lumber and timber trades of the “Old Quebecers.”

The opening of the Canadian Pacific line has given a fresh route to the “East,” to China and Japan, with another alternative course to India and Australia, not dependent upon canals or very long sea-passages. This line runs through one of our finest “colonisation” colonies—one of those classed as agricultural, mining, and pastoral—a colony to take our men and find them a living.

At the western terminus is another coaling-station in Vancouver, useful for steamships running on the Pacific lines.

Although this ocean-way is the main route, it is not really the most important, partly because of the winter closing of the St. Lawrence by ice; but New York, almost rivalling London as an entrepôt and trade-centre, has its harbour always open. From its western suburbs, trending inland, are canals and a magnificent system of railways that converge on the city.

Quebec, Montreal, and Halifax may be considered as ports

for Canada only, and the Dominion is limited northwards, by reason of the high latitude, while towards the west population has not so much increased as over the neighbouring "States;" hence their shipping movements are not so extensive as are those of New York.

We have incidentally mentioned the rapid growth of American cities. These, and an increasing population, with a larger abundance of produce coming forward to the sea-coast, have occasioned the rise of other "centres;" and we find regular lines of vessels leaving our ports of Glasgow, Liverpool, Bristol, Swansea, Southampton, London, Hull, and Newcastle for Quebec, Montreal, Halifax, Boston, New York, Philadelphia, Baltimore, Newport News, Florida, and New Orleans.

Thus the New World and the Old are joined at several points by a service of fine steam-vessels, performing the voyage between some ports in less than a week, and at intervals of, at most, only a few days.

102. Our second great ocean highway is to the East and Australia viâ the Suez Canal—a triumph of modern times—bringing the spicy regions of India and the rich pastures of Australia within a distance of about six thousand miles to India, performed in less than seventeen days; and eleven thousand miles to the capital of Victoria, covered in less than a month—a marvellous speed, when we consider the sixty days "fast" passage of barely ten years ago, and the remark of Sir H. Herbert in 1671 to our own British Parliament, "If a man were to say that he would sail to the East Indies in six months, should we not punish him for practising on our credulity?"

This ocean highway is really the most important of all, because it brings us the riches of Asia, the East Indies, Eastern Africa, and Australia; and because it leads to our vast Indian and Burmese dependencies; to India's gem, Ceylon; to our important entrepôt or trading-stations of Singapore and Hong-Kong; to the island continent of Australia and the neighbouring colonies of New Zealand, Tasmania, and Fiji,

colonies inviting our workmen, seeking our productions, and offering us inexhaustible supplies.

This line also leads to the Persian Gulf, Zanzibar, and Mozambique; to the sugar, spice, tobacco, and hemp districts of the East Indies; the vast resources of but partially opened China; and the more active commerce of enterprising Japan.

For such a voyage it is necessary to have many colonies of the fourth order, coaling-stations and naval depôts. Thus we find our outward course by Gibraltar, Malta, Aden, Perim, past the aloë-bearing island of Socotra to Diego Garcia, one of the Chagos Archipelago, to Point de Galle and Colombo in Ceylon. Continuing eastward we reach our "Gate of the East," Singapore, and thence Hong-Kong.

There are no stations in the Indian Ocean after leaving Aden or Point de Galle before reaching Australia; but this colony has an abundant yield of fuel, to a great extent supplying Singapore and Hong-Kong. King George's Sound used to be the mail "port of call," now it has fallen somewhat into disuse, supplanted largely by Albany.

Linking and interlinking with our London direct lines, we thus get easy communication by British vessels, not only with the Red Sea and Persian Gulf, with all ports on the Zanzibar and Mozambique coasts, Madagascar, and Delagoa Bay, but with India, the Malay Peninsula, the Malabar and Coromandel coasts, Rangoon and "the Straits," the East Indies, Hong-Kong and China, Japan, and all Australian, Tasmanian, New Zealand, and Fiji ports. This is truly joining the far East to the far West in direct intercourse.

Our third great route is to the East and Australia viâ the Cape, the old "highway," the course taken by our Australian, China, and Indian clippers before the days of the Suez Canal. The distance separating London from the Cape is some six thousand miles, the same as from Bombay to London by the Suez Canal, a course still used by sailing-vessels bound East, and a few of the great liners on their outward trips. *We must look upon it more especially as the South African line,*

joining England to her pastoral and agricultural colony of the Cape, and touching *en route* our West African possessions.

"Regular liners" trade between London, Liverpool, and the West and South African ports.

There are no coaling-stations between the Cape and Australia, as all vessels make a southerly course, and sight no land of consequence after leaving Cape Town until the heights beyond Adelaide are seen. But between England and the Cape *there are several stepping-stones*, some placed on our own possessions, some on islands belonging to other nations; but in either case the supplies are British. Thus we have on the road south the **Azores—Fayal or St. Michael—Madeira, the Canaries—Teneriffe and Las Palmas—the Cape Verde Islands—St. Vincent—Ascension, and St. Helena.**

103. Our fourth route is *viâ* the **Horn** to the **West American** ports, or, as an alternative, to Australia and the East. It was usual to make the outward voyage to Australia by "the Cape," and the homeward by "the Horn," for the vessels had better weather though longer passages.

We have no possessions on this route until we reach the **Falkland Isles**, and but few steamers take this long passage at present, as the only opportunity of coaling after leaving the Azores is at Rio de Janeiro or at Monte Video, and from this point the run must be made right through to Chili.

We can thus only look on this line as giving employment to our merchant service, as carriers, to Brazil, La Plata, the West Coast, and San Francisco, and as a link between us and the Pacific lines—lines running from the West American ports to Australia, Polynesia, China, and Japan.

104. A cutting of the **Isthmus of Panama** seems to be a question of time chiefly. We shall probably have our Pacific liners running to these ports as regularly as others *viâ* the Suez Canal, thus putting another girdle "round the world."

The opening of an inter-oceanic **Panama Canal** would probably affect our **fifth great ocean line** to the **West Indies** more than any other.

This line leads us to our plantation colonies. The mercantile marine, travelling the approximate three thousand miles between the nearest points, is responsible for bringing us our sugar and rum supplies, besides all tropical fruits and produce; and on completion of a canal across the Isthmus of Panama, the West India Islands will rank as transit-stations between the far West and East.

The coaling and store stations on this route are at the Bermudas, Bahamas, Jamaica, and St. Thomas; besides Teneriffe, St. Vincent, and the Azores for vessels taking a southerly course.

We have now seen how our commercial position compels us to maintain regular communication all over the world. The whole of these lines converge upon England. Add the British vessels running on the Pacific station, and the prospect of a fine service from Vancouver to China, Japan, and ports farther south; *we may see the British flag carrying produce and goods to and fro throughout the world, spreading plenty for scarceness, luxury and comfort for poverty and bare necessities.* In the fine figure of Mr. Gladstone: "Her vessels voyaging between lands far and near are like the shuttle on the loom, weaving the web of concord between the nations of the earth."

QUESTIONS.

Paris.

- 97.—1. Give some account of modern improvements in the means of transport over-sea, and of the scientific devices to expedite correspondence.
- 98.—2. What advantages of transport do the Continental States possess over insular Britain?
- 100.—3. How is the security of our mercantile marine, and of "ship's supplies" *en route*, effected?
- 101.—4. Specify the five great ocean highways, and enter into details of the Atlantic line.
- 102.—5. Give some details of the commerce through the Suez Canal.
- 103.—6. By what route is Chili reached, and what other trade is comprised in the same route?

CHAPTER XIV.

RAILWAY THOROUGHFARES AND TRADE JUNCTIONS.

Par. 105. Commercial activity developed by the extension of railways.—
106. Comparisons between the railway systems of England, the European continent, and America.—107. International thoroughfares.—
108. The eastward spread of railways in Europe and Asia.—109. The great west to east European lines.—110. The north to south railways.—111. The national and international waterways of Europe.—
112. American land and water transit.—113. African, Asiatic, and Australian means of communication.—114. The cost of haulage in relation to the introduction of railways.

105. The development of railways and telegraphs during the second half of the nineteenth century has done more than anything else to promote commercial activity, in Continental countries especially.

The telegraph conveys orders for goods or the knowledge of scarcity and plenty; quickly the railway carries supplies to the seaport; thence the steamer ploughs her way to her destined harbour; where again, probably, the rail is brought into requisition.

Every mile of railway opened in a new country does more than traverse the distance between two points; it attracts the commercial movements of a surrounding area.

Railways have altered the position of industrial sites, and have given manufactures to lands deprived of coal-fuel. Transit by sea is now so cheap and expeditious, and that by land so convenient and easy, that raw material can be supplied to districts not situated on coalfields, ironstone, or limestone.

The most striking examples of this kind are the great cities of a "day's growth" in America, such as Chicago; and in our own country, railway towns like Crewe, Swindon, Wolverton, and Doncaster, where, if it had not been for the line, the industry to-day would probably have been purely agricultural.

Ports, we have shown, are dependent upon tidal rivers or harbours sufficiently deep to allow of vessels entering. Directly a port is "started" the railway is joined to it; for although the rail and the sea seem to be competitors, they are more often auxiliaries. Where vessels load and unload there must be merchandise of some sort and passengers to be conveyed.

From the ports to the manufacturing centre or the nearest market-town is the next step; the railway induces the growth of towns, and these spring out of villages on the lines of the iron road. As the towns increase in size railway competition occurs, and many lines radiate from one centre, proving of incalculable value to the neighbourhood.

106. We see similar workings in every country. In England one can walk very few miles in any direction without coming across a railway line, and in the matters of speed, punctuality, and despatch we are unrivalled; though in travelling in minor ways we cannot so confidently claim superiority to our neighbours.

The Pulman car was introduced into England only a few years since; even now it is not generally used, and is only available for the wealthy.

Compare our long-distance trains with those of France or the United States. Ours are made up, as a rule, of "composite" carriages, while the trains from Paris for the long international runs have beds, *coupé lits*, lavatories, refreshment bars, and other conveniences.

Pulman cars run on most, if not all, the United States lines, with a free passage for moving about and every comfort. By a recent invention, too, facility is afforded for sending off and receiving telegraphic messages *en route* while the train is at full speed.

We have the habit of accepting what is provided for us if only speed is attained. We certainly have the "**Flying Dutchman**" and the "**Scotchman**" trains, but there is room for improvement in our passenger transit.

The passenger and mail services are very important branches, but hardly so important as the transportation of merchandise. We have seen how physical features incline goods to certain ports by reason of the natural fall of level. This gravitation is somewhat altered by the railway and engineering feats now accomplished. The Alps placed an almost insurmountable barrier between North Italy and Switzerland; all goods were bound to gravitate down the valleys, or to be laboriously conveyed in small quantities over the mountains. The Alps are now pierced, and goods and passengers can be conveyed from North to South, or *vice versâ*, as though there never existed a mountain or an apparently impenetrable ridge.

The railway lines of the United Kingdom for completeness leave hardly anything to be desired. The agricultural districts are traversed, there are many roadside stations, and there is hardly a corner of England that does not come within the focus of some railway.

107. Our lines, however, are, as said at first, solely for internal distribution and redistribution, or for conveyance to the outer arc of the circle; that is, to the coast. In this we are different from European nations, where each has its own railways; but, notice, *on the frontiers each system joins that of a neighbouring country*, until "**international thoroughfares**" are complete. Paris, the metropolis of France; Berlin, of Germany; St. Petersburg, of Russia; Vienna, of Austro-Hungary; Chemnitz, Leipzig, Hanover, Düsseldorf, Brussels, Cologne, Valenciennes, and St. Quentin all put forward industrial claims for consideration, and ask to be joined by the railway. Thus it comes to pass that Paris joins with Valenciennes for economic purposes, and Brussels sends out a feeder also, and on the frontier these unite; so that by degrees the extreme west of Europe has been joined in uninterrupted com-

munication with the lonely steppes of Russia and the busy fairs of Moscow or Nijnii-Novgorod.

108. The tendency of railways from the centres of Western Europe is to spread eastward, working backwards as it were; while those of the American continent tend westward. There is a useful lesson in these tendencies.

The European movement towards the East is still progressing; Russia is extending her system to the Ural Mountains, and has surveyed her vast Siberian territory, proposing to link her European possessions with Vladivostok on the China Seas. According to news from St. Petersburg, dated 2nd May 1889, the course of the projected Siberian railway has been finally mapped out and approved. The line will run from Zlatoust in the west to Vladivostok on the Pacific coast, and connect the following intermediate places: Kurgén, Omsk, Tomsk, Kansk, Irkutsk, Southern Baikal, Possolskara, Chita, Neretchinsk, Stretensk, Grafskiport, and Nikolskoi. It is estimated to cost 25,000 roubles per verst, and to take five or six years to complete.

Engineering science overcomes every difficulty. The daring project of tunnelling the English Channel and joining England to France by a railway finds advocates. It is not a mere dream that we may some day take a carriage at Charing Cross in London, and visit directly Paris or Brussels, Cologne, Berlin, St. Petersburg, Perm, Tobolsk, Irkutsk, and crossing the Amoor find ourselves on the confines of China, facing the Japanese islands. Or again, traversing Paris, Munich, Vienna, Constantinople, Kutayah, and the Euphrates valley, descend at the head of the Persian Gulf; or crossing the Persian fields, join the Indo-Afghan lines and reach Calcutta.

109. Study very carefully the railway thoroughfares of Europe. There are five great lines traversing the Continent from west to east, the only lines that can be extended farther eastwards; they reach to the sea on the west, but there is a wide expanse to be covered on the east.

These five lines are: Lisbon to Reggio—this is the Mediter-

reanean sea-coast line, and joins all ports to each other and to the Atlantic; **Brest or Paris to Otranto**—links the English Channel, Bay of Biscay, and Atlantic Ocean, by way of the industrial centres and wine districts of Mid-France, with the Adriatic and Mediterranean; **Brest or Paris to Bucharest, Salonica, and Constantinople**—*the Orient line*, joining the western seas and the Danube valley by Mid-France, South Germany, Bavaria, Austro-Hungary, the Turkish dominions, and Roumania. It is impossible to foretell the greatness of this line.

Railways are being pushed forward in Asia Minor; the Syrian coast will soon join with Smyrna and Scutari. There has been much consideration given to a Jordan and Euphrates valley railway, as an alternative route to India; and in the meantime the Indian lines are creeping westwards towards completion.

Everything is done to shorten transit. **Belgrade and Salonica** are likely to attract the Eastern mails, the sea-passage between the latter place and **Alexandria** being computed at *sixty hours* instead of *four days*, as from **Brindisi**. There seems to be a great opening for Salonica as a port and entrepôt, and this route will further bring out the undeveloped resources of Macedonia.

The next line is **Paris to Orenburg**, traversing all Central Europe and joining Asia and the river Ural with the west. The Russians are extending railway lines from the Caspian to the Oxus and to the south, giving, probably, another route through lower Central Asia, and possibly to Cashmere and Northern India.

The last west to east line is from **Cadiz to St. Petersburg**, joining the Mediterranean and Atlantic to all Mid-Europe and the Baltic, and uniting the warm-temperate with the boreal zone. This line will probably join with Perm, either from St. Petersburg or Nijnii-Novgorod, and thus make the through European-Asiatic route.

China is more than "talking about" railways. There

appears to be every chance that the Celestial Empire will join by rail with our Indian systems, and probably, too, with the Siberian when complete.¹ The projected lines are almost certain to follow the old caravan routes.

110. *The six north to south lines are Calais to Marseilles*, joining the English Channel to the Mediterranean; *Drontheim to Genoa*, joining the North Atlantic, Baltic, North Sea, Northern and Central Europe to the Mediterranean; *Stralsund to Trieste*, joining the Baltic and the Adriatic; *Dantzic to Odessa, Bucharest, Varna, Constantinople, or Salonica*, uniting the Baltic, Black Sea, Danube river, and Ægean Sea; *Riga or Libau to Sevastopol or Odessa*, also uniting the Baltic, through the western territory of Russia, with the Black Sea; lastly *Abo, or Sweden* by the Arctic line, through Gellivara, Lulea, and Uleaborg, *to Tiflis*, joining the Gulfs of Bothnia and Finland to the Sea of Azov, the Black Sea, and the Caspian, or the extreme boreal zone with the sub-tropical.

Each of these main lines throws off spurs to every point on the road where industrial activity appears, which thus complete the network of European lines, from which we are detached by our insularity. These railways carry the raw material to the centres and distribute the finished goods; they open up agricultural districts, and render remunerative land which a short time back was really useless, owing to the great difficulties of transport, many tons of produce lying rotting and spoiling on the fields because there was no available market.

111. Besides the railways, there are the great river arteries of Europe, which much facilitate transit-trade. These main arteries are the Rhine and the Danube, two of the greatest business rivers of Europe; and the Volga, which rivals the Danube, but is heavily "handicapped" by having its embouchure in an inland sea. The lower courses of the Seine, Loire, Gironde, Rhone, Elbe, Weser, Oder, Vistula, Meuse, Scheldt, Neva, and Tagus have a navigation of importance,

¹ The first line in China has been opened (see MAP STUDIES, p. 192).

that would be much more considerable if their mouths were cleared and improved.

The national and international systems of canals supplement river and rail, joining river-basin to river-basin, and consequently sea to sea. Thus the western or French system unites the Mediterranean with the English Channel and North Sea, by the canals of the east, of Burgundy, the centre, and the south. The Gironde and Mediterranean unite by the Languedoc Canal; and the rivers Seine and Loire by various waterways with the Rhine, Saône, and Rhone.

The German or central system unites the Baltic to the North Sea, and the North Sea to the Black Sea; for the Rhine unites by canal with the Danube, thus joining Belgium, Holland, and North Germany to South Germany and Austro-Hungary.

The Russian or Maria system establishes communication between the Baltic, Caspian, White and Black Seas; the rivers of the north being linked to those of the south by canals and lakes.

112. The North American continent exhibits the same perfection of interlinking. The whole eastern side of the continent is more thronged with towns, cities, and railways than the western; but every day population is increasing and extending westwards; cities spring up along the lines of rail, and prosperity follows; while the canal waterways resemble those of Europe. But, different from the Old World, the railway is continually spreading westward, and it seems possible that the eastward and westward tending lines will only be prevented from meeting by the Pacific Ocean.

There are at least five great east to west lines, Montreal or Quebec to Vancouver, joining the river St. Lawrence and the Pacific by the great lakes, the forests of Quebec, the grassy plains and rich corn-fields of Manitoba and the great North-West.

Then Duluth to Portland, a busy line uniting the lakes to the grain-bearing fields of Oregon and the Pacific Ocean.

New York to San Francisco by the city of Chicago; this we may call the North Central line. **New York to Mojave**, joining the Atlantic and Pacific, through the South Central States. Lastly, **Brunswick to Los Angeles**, the Southern States line, uniting the Pacific, the Gulf of Mexico, and the Atlantic.

The six north to south lines are Olympia to San Diego, the Pacific Coast line, uniting the Californian goldfields with the corn-fields of Oregon and the waters of the Vancouver Sound. **Helena**, on the North Pacific line, to **Mexico**, opening up all the Central States. **Omaha to Galveston** joins the North Central line and the lakes with the Gulf of Mexico. **Winnipeg to New Orleans** unites the Canadian Pacific with the Mississippi valley and the Mexican Gulf. **Chicago to Pensacola** joins the northern lakes to the forests of the south and the shores of the Gulf of Mexico. Lastly, **Boston to Brunswick**, a thorough "business" line, skirting the Atlantic Ocean from north to south, unites all the eastern populous centres.

South America is making some progress in railway extension, but, comparable with North America, railway enterprise has hardly begun. "The contrast between the paucity of railway communication in South America and the completeness of the railway system in North America has its counterpart in the magnitude of the internal trade of the two continents, interchange being proportionate to the means of transit." The **Argentine Republic** and **Eastern Brazil** chiefly are extending railways, and the result has been an immediate expansion of trade.

The rivers both of North and South America are most important auxiliaries to transit. The **Mississippi** in North America, with its branches, touches the north, south, east, and west, and by canals reaches THE LAKES, the **St. Lawrence** and the **Hudson**, and thus becomes one of the most marvellous waterways in the world, embracing a whole continent. **South America**, again, is favoured with magnificent rivers, which run

their natural courses, but are little touched as yet for "business." The Orinoco, the Amazon, and the Uruguay and Parana, uniting in La Plata, penetrate the continent for thousands of miles, and give unequalled floatage to the sea-coast.

113. **Africa** remains a "dark country." Railways only exist along the northern shores of the continent, and in our own colony at the Cape, where they are being gradually extended inland. For the rest, the transport of the riches of the interior both of Africa and Asia and the distribution of goods are left to the caravan routes, which are traversed by the dusky inhabitants of the Sahara and the nomads of Central Asia. **India** has its own railway systems, which link port to port and traverse the peninsula, and are being extended both westwards and eastwards.

Australia is emulating the American continent in joining colony to colony by rail and by pushing the lines farther and farther inland. The colonists are not only opening out a very fruitful land, but are holding out greater inducements for Englishmen to go and settle there.

In conclusion, **water-carriage is invariably cheaper than land-carriage**, although competition is always tending to bring cost of carriage to a lower and equal level; consequently it is sometimes possible to compete successfully by a longer *sea* passage against a country with only a short *land* journey; a fact that equalises our position and enables us to contend with those countries whose external trade is distributed by international land-carriage.

114. Where railways can haul produce to the seaports, the tendency is to cheapen rates all round; thus trade is increased, and necessities and comforts distributed to millions. Upon this point Sir L. Playfair said, in 1888¹: "Not many years ago the charge for wheat in bulk between New York and Liverpool was sixpence per bushel, while last year its average was twopence-halfpenny. . . . The transport of fresh meats

¹ The Depression of Agriculture and Fair Trade.

from New York to Liverpool, including freight, commission, and insurance, is only one penny per pound weight. Hitherto the English farmer's natural protection against cheap flour and fresh meat from America has been the great extent of haulage, sometimes fourteen hundred miles to the port. The railways now do this haulage with wonderful economy. If I asked a boy to cross the street and post a letter of an ounce weight, he would think his labour ill-requited by a farthing. But the American railways will haul two thousand pounds of grain for a distance of one mile for less than a farthing."

We have laid great stress on the **knowledge of transit facilities by rail, sea, or canal** being necessary to every student of interchange. Consider carefully the following extract:—"Transit by water is always cheaper than transit by land; therefore in places removed from business centres it will be oftentimes possible for countries far distant to supply equal commodities transported by sea at a lower cost than a neighbouring country with shorter transit by land." For instance, in Corsica, our manufacturers will compete under very favourable circumstances with those of the north of France or Germany, who will have to pay railway freight to Marseilles, while our goods can be sent all the way by water.

QUESTIONS.

Pars.

- 105-107.—1. What new forms of industrial and commercial activity may we trace to the introduction of the railway system?
How do the Continental systems differ from our own?
- 108, 109.—2. Describe the great railway routes of Europe eastward.
- 111.—3. Show how the European waterways interlink with the railway systems.
- 112.—4. Give an account of the land and water communications of North America.
- 113, 114.—5. Show in what manner improved means of transport alter the local character of industry.

CHAPTER XV.

IMPORTING AND EXPORTING.

Par 115. National interchange necessitates importing and exporting.—116. Imports and exports are measured in money; laws of interchange.—117. Adjustments of the differences between the value of imports and that of exports, with illustrations.—118. Settlements in bullion or specie.—119. Character of British imports and exports; our annual “turnover.”—120. England’s principal customers.—121. International profits are not monopolised, but are shared beneficially by all.

115. “Division of labour” affects nations as well as individuals, for two or more nations may join in preparing a product. Thus the settler in Australia, with his assistants, tends his sheep-runs, and at the season shears and presses his wool, which he then transmits to the shipowner. On arrival in London the coasting-vessels and railways take the bales to the woollen centres, and after the wool has been spun into yarn it may go to Belgium to be woven, or France to be dyed or figured, and then be sent back to England, or ultimately to Russia, China, or elsewhere.

This example shows us the “division of labour” from the birth of the lamb to the wearing of the woollen garment, and each participator in the movement has benefited by the transaction. Therefore territorial separation is really equivalent to division of labour, for very generally one country, or portion of a country, yields the raw material which another manufactures.

Multiply this instance by the number of useful commodities, and see what an important part the movements of merchandise have in commercial life!

With our colonies all over the world, and our people restlessly passing goods to and fro, the mercantile marine is kept busy bringing substances in—chiefly raw materials—and carrying commodities out—chiefly manufactures. **These transactions are termed “importing,”** that is, *goods coming in*; and **“exporting,”** that is, *goods going out*.

116. We have shown how “coin” is made to be the symbol of value as between interchangeable articles. Thus, in England the pound sterling, or sovereign, is termed the “legal tender;” that is to say, if any piece of work is valued against another commodity, both representing the “money value” of a sovereign, that coin is given in payment, as being at once a measure of value and a representative value, a convenient symbol; and *this coin will be accepted all over the world as an equivalent for labour or goods*.

Thus, we speak of a case of goods exported as valued at, say, ten sovereigns. *This is the value of the raw material, plus the various kinds of labour bestowed upon it*, and in exporting these goods the shipper anticipates receiving this “money value,” or an equivalent in exchange. As it is customary to speak of all exports and imports in “money value,” this explanation will serve to show not only the reason and the way of working, but also the enormous extent of our trade when the same is reduced to figures, as each figure represents some work bestowed upon the goods. As a money value is universally placed on imports and exports, comparisons are readily drawn between countries.

Transactions between nations are exactly similar to those between individuals; indeed, **it is the trade of individuals that makes the national “turnover.”** Every merchant imports raw material or other commodities, because he can dispose of them here to advantage, and he discharges his liability either by exporting goods of similar value to the sender of the raw material or in coin. In the same way, an exporter exports to a country because there is a market for his goods, and he expects to be paid either in coin or some

valuable product of that country. Thus we see that **imports are paid for by exports**, and *vice versâ*; one hundred pounds worth of raw cotton being paid for by one hundred pounds worth of finished cotton goods.

117. This is both the theory and the practice of business; but then we should hope to see our imports and exports balance exactly, and they do not. How is this? Our imports invariably exceed the exports, and it looks as though we were indebted to other countries for the difference. Thus, in 1885 our imports were one hundred millions sterling in excess of our exports, and in 1886 they were eighty millions. Did we owe this large sum of money to other countries?

A little consideration will throw light upon this problem. In the first place, the value of the exports is always given by the merchants who ship the goods, and their valuation of them practically only includes the prime cost; while to their correspondents abroad they add to this prime cost their profit, their shipping, wharfage and agency charges, insurance, and freightage; so that the demand upon the correspondent is, at the very first start, very different from the "value of the goods" as declared at the custom-house.

Then, again, with the imports. The goods just instanced are, we will say, paid for by raw material of the country, which comes home direct. The value, as declared at the custom-house here on arrival, includes the foreign commission, tariffs, insurance charges, &c., in addition to the cost of the raw material; therefore we see, in this simple transaction, how different the value of the goods will appear at the custom-house, and yet they are really valued accurately one against the other.

Look at the case in figures. Suppose the goods to be exported cost £100, and they are so valued as export goods; but when your correspondent gets his invoice he finds—Goods, £100, plus charges, commissions, and insurance, £10; besides which he has to pay freight and other charges, bringing his bill to a total of £115. To liquidate this, he ships to you

goods valued by him at £115; this squares the account as between you and him. But when you "enter" these goods you may have paid freight, insurance, and other charges extra, perhaps another £15; thus they will probably appear in the books of the custom-house as—Goods imported, £130. Therefore, in this simple transaction, the import appears to exceed the export by £30; and yet you have only interchanged goods of exactly equal value. The difference is made up of charges for the services rendered by others in transporting, carrying, storing, or taking care of your goods on passage. This extra amount is really adjusted by you and your correspondent at either end, and the produce or product advanced by so much in value.

In the case in point your profit was included in the £10 extra charge to your correspondent, the shipowner was remunerated with the £5, and your account against your correspondent was squared by the receipt of the goods valued at £115. Meantime your correspondent has disposed of the goods you sent him to the retail man for £115, plus his charges and profit; and you, with your goods in hand, valued at £130, dispose of them at an advance to the manufacturer. And thus the tide flows round from producer to consumer.

Multiply this case by millions, and we can understand one cause of excess of imports over exports.

Again, the operation may be prolonged by your goods not coming home direct. The "movements of the markets" may induce you to send the merchandise to another country, and by the time you are reimbursed your original outlay, it is possible that the amount may be increased by fifty per cent., owing to extra labour that has been expended upon the goods.

118. Again, countries have from time to time borrowed capital from England to enable them to open up mines, lay railways, reclaim wastes, aid agriculture, and for many other purposes. England has lent them that interchangeable commodity, money, on the condition that these countries pay

interest. When the time for paying the interest comes *money* may not be procurable, or the creditor prefers payment in "kind," and the country liquidates its debt by sending produce. This produce is included under the head of "imports," and goes further to swell the difference between exports and imports, as, of course, there have been no goods sent out against these receipts; the transaction took place long ago, and this is simply paying an interest on a loan.

At times, owing to many causes—such as dearness of commodities in the markets, insecurity of foreign merchants, an engagement to pay more for commodities than other countries engage to pay in return, or many other things—the accounts have to be settled "in cash." The preceding, however, is the usual method of conducting mercantile transactions as a whole, and may be deduced from the fact that, although the difference between imports and exports was £100,000,000 in 1885, the actual amount of "bullion" sent out of the country was only £21,750,000, and against this we received £22,000,000, so that our cash account stood balanced; while our imports still exceeded our exports by one hundred millions.

It is not necessary for *one* merchant to both import and export; the *average* of imports and exports balance each other, as shown above, the real differences being adjusted by individual merchants at either end. Each "trade," then, in this case, must be looked upon for comparison as one merchant. Supply and demand, differences, purchase, and sale are regulated and adjusted "on 'Change."

119. As England is largely dependent upon foreign countries for her extra food-supply, and also looks to her colonies and elsewhere for vegetable fibres for her textile manufactures, we should expect to find our merchants ordering these commodities very largely. In our capacity as manufacturers for the world, with our elaborate machinery, cheap coal, and industrial skill, we are always open to interchange; that is, to purchase the raw materials of other lands.

On examining the food requirements of our people, we find

that, on an average, each head of the population consumed, in 1886, 186 lbs. of cereals and flour, 28 eggs, 66 lbs. of sugar, 12 lbs. of bacon and hams, 12 lbs. of dairy-produce, *i.e.*, butter and cheese, 11 lbs. of rice, and 5 lbs. of tea.

Of these there are three articles for which we are entirely dependent upon tropical climes, namely, tea, rice, and sugar—excepting “beet” and other manufactured sugars, which favour temperate zones. For the rest, all the world supplies us with cereals, but notably Russia, India, Australia, and America; bacon, ham, and lard come chiefly from the Eastern United States, and dairy-produce from Denmark, Holland, Canada, and Ireland.

If we refer to the figures of our imports, we see that our receipts of merchandise were, in 1886, in the following order:—Corn and flour, wheat, other corn and grains, wheat-meal, other meal and flour, cotton, wool and woollens, sugar, metals, silks, woods, tea, butter and butterine, bacon and hams, leather and manufactures, seeds, animals, dyeing stuffs, and fruits; followed by many articles that are valued at over one million pounds sterling—a large sum verily, but small in comparison with the preceding principal articles, notably fresh and salt beef, caoutchouc, cheese, chemicals, coffee, drugs, eggs, feathers, flax, glass, gums, hair, hemp, hides, jute, lace, lard, meats, nuts and kernels, oil, oilseed-cake, paper, pyrites of iron or copper, rags, esparto and other papermaking materials, rice, sago, and farinaceous substances, skins and fur, spices, spirits, tallow and stearine, tobacco, and wine.

A glance at this list shows what we receive as luxuries of life, what as necessities, and what for industrial purposes.

Our chief exports in the same year were as follows:—Cotton manufactures, metals and metal manufactures, woollen manufactures, cotton yarn, coals and their products, haberdashery and apparel of all sorts, machinery, linen manufactures, woollen and worsted yarns; followed by goods valued at over a million sterling: alkali, arms and ammunition, beer

and ale, books, chemical products, earthen and china wares, fish, hardware and cutlery, jute manufactures, leather, both tanned and manufactured, manures, oils, painters' colours, paper, pickles, condiments and confectionery, and silk manufactures.

These two lists show that our imports consisted exclusively of raw materials, with the exception of a few woollen, silken, and leather manufactures and lace, and these are probably received to meet fashion's caprices, to be entered as French goods or for some similar purpose; while our exports were exclusively manufactured goods, except our three staple raw material commodities of coal, metals, and fish.

This will explain the position of England among nations; with a gross import and export trade in 1886 of six hundred and twenty millions sterling, supplying the world with manufactures and receiving from any country whatever raw materials it can supply. To transport this enormous value of merchandise, besides our mails and news, and being ready to fetch and carry for our neighbours, there is ample room for all our mercantile marine and more, although at present, collectively, our ships can transport some ten to twelve millions of tons of cargo. This large amount of import and export refers only to the turnover of Great Britain, and not to that of the world.

120. The countries with which we carry on the greatest interchange are the United States, India, France, Australasia, Germany, Holland, Belgium, Russia, Canada, China, Spain, Egypt, Turkey, Sweden, Brazil, Italy, the Cape Colonies, Straits Settlements, Denmark, La Plata, &c. This is an instructive order. The United States, with their vast extent of territory, head the list, and warrant the running of our magnificent liners to and fro. Then come our two great colonies, separated only by our nearest Continental neighbour, with whom it is reasonable that we should have an extensive interchange. Thus importing and exporting are a consequence of territorial division of labour. Australia

or the Cape grows what Belgium weaves and France dyes. If the various countries are studied according to their areas, it will be seen that we maintain an enormous interchange per square mile of area. No nation in the world is able to show such a record; and this vast turnover of merchandise is practically divided between London, Liverpool, Glasgow, and Bristol. We can barely grasp the idea of between five and six hundred million pounds worth of goods being loaded, unloaded, and distributed through these islands, all without hurry and without loss; trains and steamers running to and fro according to their appointed time.

This could not be accomplished without perfect method, co-operation, skilled workmen, and division of labour.

121. The explanation given of the adjustment of imports and exports proves it to be a wrong view to take of businesses, trades, or nations, that when a profit is made one trade or business makes it at the expense of another. "**Trade profits are shares of products**"—originally earth-gifts—"created by the co-operation of many persons, and they"—whether individuals, trades, or nations—"in profit, reap a benefit resulting from their own and others' productive efforts. Selling goods for more money than was paid to obtain them—thereby apparently withdrawing money from others—is only a plan by which what is produced is conveniently distributed." (*Laing.*)

We see that all trade springs from the gifts of nature; that profit is the result of trading, robs no one, but rather benefits all; and that interchange, or commerce, is necessary for everybody; co-operation, or reciprocal work, is only healthy labour, and yields its own return of profit.

Profit is the value or payment for labour, whether mental or manual, bestowed upon an earth-gift. This gift yields its own profit to the grower or the miner by its possession; as it passes from hand to hand it increases in value, and the finished product yields throughout the chain in a backward current the profit or enhanced value, until, from consumer to

producer, each is recompensed for his labour, each is benefited, and each is satisfied with his "profit;" otherwise "transactions" would cease.

QUESTIONS.

Pars.

- 115 and 116.—1. How do the imports and exports of various countries often differ in character? What part does money perform in effecting exchanges? Show that commercial transactions between nations are, in principle, the same as between individuals.
- 117.—2 An equivalent being given and taken in commercial exchanges, how is it that in some countries the imports regularly exceed the exports in value, while in other countries the reverse is the rule?
- 118.—3. Explain the apparent inconsistencies of British "returns" in 1885, when the imports of merchandise exceeded the value of the exports by one hundred millions sterling, while the cash account stood closely balanced.
- 119.—4. Name, in the order of their magnitude, the chief British imports of substances used for food and clothing, and the principal sources of supply.
- 119 and 120.—5. Name, in the order of their importance, the chief British exports; name also the countries which are our best customers.
- 120 and 121.—6. What division of mercantile enterprise, apart from commerce proper or foreign interchange, adds most to British trade? Show that the profits of trade are shared internationally, and are not monopolised by any single commercial State.

CHAPTER XVI.

A STUDENT'S REQUIREMENTS FOR BUSINESS.

Par. 122. Greater range of commercial knowledge now necessary.—123. Trade statistics ; tests of their fluctuations.—124. Consuls and their duties.—125. Adaptation of goods to the requirements of customers imperative.—126. Effect upon commerce if these requirements are neglected.

122. In commercial life, a student proposing to become a cotton or woollen manufacturer is expected to learn to know first of all the different kinds of cotton in the market ; these may be South Sea Island, Georgian, Brazilian, Turkish, Egyptian, Indian, or other ; or of wool, whether Saxony, Spanish Merino, Turkish Angora, African Angola, Indian, Thibet or Cashmere, Canadian, Australian, Cape, or La Plata. He must know at least where such places of growth are, and the means of transit to and fro, the tariffs, the monetary system, and the exchanges of the countries.

Further, he must not be wholly unacquainted with mechanical appliances for spinning, weaving, &c. ; he must understand sufficient of chemistry to enable him to judge of a dye properly ; and he must know his "markets ;" that is, he must supply to the Egyptians, the Turks, Hindoos, or Chinamen just what they severally want. He must study also his various competitors, and the weapons they use against him, and seeing where they win and why, turn these weapons to his own advantage.

As a mineral or metal proprietor, he should be conversant with the different applications and qualities of coal—steam

or house coal, bituminous or non-bituminous, anthracite or cannel—and the various uses made of the residue—cinders, coke, coal-tar, pitch, &c. ; something, too, of the help afforded by science to miners and mining.

He must know what effect legislation has had upon industrial life in the past ; the difference between active and passive commerce ; the currencies, weights, and measures of all countries.

Especially he must understand the language of the country with which he trades, for a foreign customer will always give preference to those with whom he can readily converse or communicate. To the commercial student Goethe's aphorism applies with singular aptness, "He who only knows one language knows none." As a **shipowner**, he must possess thorough knowledge of the ports and situation of trade-centres, with their means of internal communication. As a **merchant**—the interchanging agent—he must combine his special knowledge with that of the shipowner, manufacturer, and producer.

123. **Statistical figures must be read aright**, in order to understand where trade is flourishing, where decaying, and where competition is most keen. "Figures will prove anything ;" but there is a right and a wrong way of interpreting commercial statistics. A successful merchant, on balancing at the end of the year finds that he has made a profit. This profit consists of interest, at the current market rate, on the capital invested, plus his remuneration for administrative skill. Say his £100 capital returns him by frequent turnover £50 during this period. What does he do with it ? He keeps his capital intact, constantly replacing stock-in-trade as it flows out. He may consume the whole of his profit on household and personal enjoyments, and still hope to make fifty per cent. yearly on his capital. He may see his way to enlarge his trade by adding to his capital out of his profits and living within his income. By this course he may in a few years double his capital, and while still making fifty per

cent. profit, will also double his income. As with a merchant so with a nation. Additions to the national capital from savings out of national profits—consisting of the whole sum of individual savings—are the sole source of a State's growth in wealth.

Wars and rumours of wars, a bad harvest, blights of all sorts, losses at sea, influence the total trade of a country.

The proper way to test the prosperity of a nation is to **take an average of years**, so as to eliminate exceptional influences, and compare the trade of other countries with our own on that average of years. Then select another average of years and apply the same test; this will show accurately whether trade is rising or falling, because one country reacts upon another.

In these days of telegraphs and rapid transit nothing in any part of the world can be done in a corner. The phylloxera appearing in any single vineyard creates uneasiness, and thus affects the wine-trade of the world; and again, smut, ergot of rye, or fungus anywhere influences the whole corn-trade of the globe. Suppose our gross imports on an average of five years to be £200,000,000, and our exports £180,000,000; and in a following average of five years £250,000,000 and £200,000,000 respectively; we are apt to say "**trade is rising.**"

But during these ten years population has increased, and consequently extra wants have arisen; therefore the ratio may be no higher, nor even so high, in which case we should really show an *actual decline*, although the figures were higher. Again, suppose during the first period we supplied Japan with £2,000,000 of goods, receiving a like value back again, and during the same period France, Belgium, or Germany transacted business with the Japanese islands to the value of £1,000,000 each way; and at the next period our amount is £2,200,000, and that of our competitors £1,500,000; in this case our rise is only *relative*, but our *retrogression is actual*; for it is reasonable to assume that the ratio of population has had a similar

effect upon each competitor, and there has been a fair field for all.

124. With our extended trade, and in fact among all commercial States, *it is customary to have a representative resident among the natives* of every important country with which we deal. These men are termed "**Consuls**," and their knowledge must be extensive, because their duties are comprehensive and various.

"A Consul is an officer appointed by competent authority to reside in foreign countries with the view of facilitating and, indirectly, of extending the commerce carried on between the subjects of the country which appoints him and those of the country or place in which he is to reside.

"The office appears to have originated in Italy about the middle of the twelfth century, and to have been taken up by the French and other nations trading to the Levant. In the sixteenth century the practice was generally established over Europe. The right of sending Consuls to reside in foreign countries depends either upon a tacit or express convention; hence their powers differ very widely in different States.

"The duties of a Consul are important and multifarious. It is his business to be always on the spot, to watch over the commercial interests of the subjects of the State whose servant he is; to be ready to assist them with advice on all doubtful occasions; to see that the conditions in commercial treaties are properly observed; that those he is appointed to protect are subjected to no unnecessary or unjustifiable demands in conducting their business; to represent their grievances to the authorities at the place where they reside, or to the ambassador of the sovereign appointing him at the Court on which the Consulship depends, or to the government at home; in a word, to exert himself to render the condition of the subjects of the country employing him, within the limits of his Consulship, as comfortable, and their transactions as advantageous and secure, as possible." (*Martens, quoted by J. R. McCulloch.*)

Mr. Chitty in "Commercial Law" says:—"A British

Consul, in order to be properly qualified for his employment, should take care to make himself master of the language used by the Court and the magistracy of the country where he resides, so as to converse with ease upon the subjects relating to his duties. If the common people of the port use another, he must acquire that also, that he may be able to settle little differences without troubling the magistrates. . . . He is to make himself acquainted, if he be not already, with the law of nations and treaties, with the tariff or specification of duties on articles imported or exported, and with all the municipal ordinances and laws."

125. Again, we must carefully consider and adapt ourselves to the requirements of our customers; a fashion or a caprice may turn away trade from one country to another, because the fancies of the customers are there better attended to.

Speaking of the *Argentine Confederation*, the following occurs in one of the official returns:—"The Argentine people are peculiar in their ideas as to dress goods, boots, shoes, hats, caps, wearing apparel, and even agricultural implements;" and the Consul urges the attention of the United States upon the matter. Again: "Cork could do a large trade with *Singapore*, if it pleased, in butter. Attention should be paid to the ornamentation of the label, and a narrow white paper ribbon should be fastened upon it, describing the contents in words."

In the progress of manufactures there is need of more fertility of design and greater adaptability to the wants of the millions for whom we cater. If the trade of Asia and Africa is no longer to be confined to the shipping ports, but to extend to the interior, *geographical education must not be limited to the pointing out of certain places on a map*; it must include a description of the physical aspect of these countries, and of many industrial facts important to be known. *A more extended knowledge of living languages*, especially French, German, Spanish, and Italian, and more attention to the tongues of the East, are *indispensable*. Equally so as regards the first principles of metallic currencies, of capital, credit, loans, wages,

thrift, and co-operation *versus* combination, besides an adequate knowledge of commercial law, partnership, agency, sales and contracts, insurance, bills of exchange, and all mercantile instruments.

With regard to the trade of *Asia Minor* a Consul writes :—
 “For some time candles have only been imported from Belgium—a result due to the perseverance of the Belgian candlemakers with their clients.” And lastly, in that great and yet only partially opened market of China, the following pregnant advice occurs :—“French manufacturers have failed to secure a large amount of business which they might have had, owing to their inattention to the special requirements of the Chinese, and by their endeavours to force their own taste upon them. England, on the other hand, has paid more attention to this, and she has in consequence become master of the situation in cottons.”

126. These examples from commercial representatives—the Consuls—will sufficiently show the necessity of “going with the times” in our export trade, because it is practically only our manufactures that we can export. If we cannot please our clients by giving them all they desire, and other nations can do so, we shall lose custom ; just as you change your shop if you can get better suited elsewhere. And if we lose our customers, we lose by so much the power to interchange ; in other words, to import. Therefore, **diminished exports mean diminished imports, and consequently declining trade.**

We must equip ourselves fully and keep ourselves armed for all contests ; we “must knock again and again” at the gate of nature, institute new search into her materials and mysteries, and see what she has further in store.

QUESTIONS.

Pars.

- 122.—1. Illustrate the wide range of technical knowledge required by a student to fit him to become a successful manufacturer or merchant.
- 123.—2. Show how a merchant computes his annual gains, and what are the principal risks against which he has to guard, distinguishing those within his own control from those due to natural causes.
- 124, 125.—3. Who are our Consuls? State briefly their commercial functions, and the qualifications necessary for their due performance.

CHAPTER XVII.

NEW OPENINGS FOR TRADE.

Par. 127. New markets. Definitions and illustrations. Where to be sought.—128. Real benefit of new foreign markets —129. Markets are sometimes lost through neglect.—130. Canada and Australia as new markets —131. Capabilities of Cape Colony and Central Africa for additional trade.—132. India and Burmah as markets to be opened up.—133. China and Thibet as markets. Countries of the third, fourth, and fifth order as markets. Deductions.

127. John Stuart Mill remarks : “The vulgar theory deems the advantage of commerce to reside in the exports, as if not what a country gets but what it parts with by its foreign trade was supposed to be the gain.” A merchant looking out for new markets hears that Central Africa is a field where cotton-cloths could be offered with advantage—to the natives. Would he send out garments to “the arid nurse of lions” as a philanthropic speculation? Certainly not as a merchant, whatever, apart from business, he might do from benevolence. Before parting with his goods he must be assured that he will get an equivalent; that is to say, be paid for them either in gold or produce. Africa, therefore, is not a new market in an economic or commercial sense; there is plenty of room to export, but it would be playing a losing game. When civilisation extends to Central Africa, and trade can be carried on with confidence, then there may be a new opening with a proper commercial signification.

A country being a “vent,” or having an abundant capacity for consumption, does not thereby constitute a new market.

From whatever country we import produce, we expect to export goods to that country in return. A capitalist would not do business with a newly started, untried merchant, without security for adequate exchange; though the new merchant would gladly transact business with the old capitalist who has proved his trustworthiness. The same principle holds good in all international transactions.

We must look for new markets, in the first place, among our colonies, because we know what they require, and also their capacity for recouping us. Secondly, among countries having products of commercial value and with a considerable population, willing and able to exchange for British goods if offered in suitable guise, and provided that fiscal burdens lay no embargo on reciprocal trade. Thirdly, we must look to ourselves. *We have the power of creating new markets*, which may be a country, city, town, or village where there is a felt want—a necessary, comfort, luxury, fashion, or mere caprice—prevailing; in short, something to supply—a new demand. Again, if England invents some new utility or improves an old one, thus making a new product, it has but to be made known and easily accessible to become of economic value and to create the want. Hence, *new openings lie around us, at home—if not abroad.*

128. "The real benefit of foreign trade is measured by the greater abundance of the corn, wine, clothing, obtained by importation, over what we should have were they produced at home. The excess or difference of quantity by importing is of the nature of a gift conferred by foreign trade." Looking at the payment side of the question—that is, the impulse given to trade by exporting—France and Germany, less than a century ago, came to England for nearly all the manufactures they required, because at that time they were not prepared to fabricate for themselves. Being virtually compelled to buy from England, we could dictate our own terms, there being no competition. We had the monopoly of supply. As machinery and modern appliances came to be introduced into

France and Germany, the French and Germans began to manufacture for themselves, and consequently wanted less from us; or else we had to offer greater inducements to get them to buy; in fact, we soon offered to take less for our goods.

As time went on these countries produced at home as cheaply as they could buy from England, and we lost the markets. It only remained not to let them beat us in excellency of design or workmanship in the things we had taught them to manufacture.

This is one important cause of fluctuations and apparent retrogression of trade; hence, *it behoves us to see whether we cannot produce new goods, or combinations of goods, and thus create fresh wants.*

People will give more at first for any article there may be a demand for, but the amount given in exchange will lessen gradually as the felt want dies out, or until the country can supply itself by manufacturing as cheaply, or more cheaply, than it can import; then the market is lost.

Another and fourth point will also create a new opening, **when by exploration, or travel, we obtain evidence that a country has special produce that would be very useful to us; or that it has special adaptability for supplying it, and also that we can reciprocate to that country's advantage.** The soil of **Morocco**, for example, is admirably adapted for the growth of a light-coloured barley, which would readily find a market in this country; in exchange there is no difficulty in satisfying the people of Morocco with our finished goods. *Here, then, a new market lies open.*

129. Again, markets are often lost because no trouble is taken to supply the want. For instance, "Since 1869 there has been in existence in **Belgrade** an important Agricultural Society, and all machinery and implements ordered by it enter the country free. By the third article of the Anglo-Servian commercial treaty these imports are liable to a duty of eight per cent, but that duty is not to come into force

until all the powers having certain rights shall have surrendered them. . . . Agricultural implement makers ought to avail themselves of this fact. Hitherto English makers have failed to get hold of the Servian market, because their machines are too heavy and expensive. Machines for dressing and sorting the different grains for market, harrows, cultivators, &c., might be disposed of in considerable numbers, . . . if the vendors knew the markets and studied them as the Austrians do."

How, it may be asked, are these fancies, or these felt wants, to be made known to us? **By sending out more commercial travellers**, men conversant with detail, and who can *talk the language* of the people with whom they are going to treat. "German, Belgian, and Austrian manufacturers have always travellers on foot studying the markets; '**an English traveller is seldom seen.**' The British manufacturer rarely canvasses the market or makes any efforts to suit it. If the market will take what he has to offer, and come to him, well and good; but he is not at pains to woo its custom, as the manufacturers of the Continent are."

Another complaint often raised is, that "*the English manufacturers object to offer their goods otherwise than on the English standard of weight, measure, and value*, 'for delivery at the works,' or, at most, 'free on board at a British port,' while Germany and Holland offer their manufactures on French or other standards, delivered free at a French or other port, or even at the required destination."

These are some of the points to be considered in seeking for new markets in any part of the world.

First, then, looking to our colonies, we take the trading or agency colonies, as Hong-Kong. Among these we cannot expect new markets. They are of small area, and very little satisfies the inhabitants, but they have been acquired by us for the markets they command; thus Hong-Kong stands something in the position of a wholesale store to retail to China. Although such colonies produce nothing, still we

carry on a very large import and export trade with them, they waiting, as entrepôts, the opportunity of distributing to other nations.

The plantation colonies, again, do not admit of new markets; they are also of small area, and their capabilities and population are well known. Different from the previous class, their trade is in reality their own; they export only their own produce, which we are willing to import to any amount, while they import solely for their own consumption.

130. We come now to the **agricultural, pastoral, and mining settlements**. These colonising colonies, "*integral parts of the English nation*," possess vast stretches of land yet unpeopled, for which emigrants are leaving England daily. In **Canada**, at the **Cape**, in **Australia** and **New Zealand**, we must hope for new and reciprocal markets—markets of the first class. We knew from the time the first settlers occupied the shores, and later, as more arrived and penetrated farther into the country, and as means of transit were extended, what these colonists were able, and would be able, to offer us as raw material.

We know the woods, cereals, fibres, dairy-produce, and orchard-fruits of **Canada**; also the fertility and resources of the land from the Atlantic to the Pacific; therefore here is a market opening out day by day. We are well acquainted with the requirements of the settlers; they need agricultural implements of all kinds, clothing, haberdashery, hardware, ironwork, and indeed all our manufactures, and there is no difficulty in securing a good return. The **Cape** and **Australian** colonies are analogous; they have each a superabundance of cereals, fibres, wool, animal products, minerals, and metals, and they are all in want of our manufactures.

Further, our colonists have proved that, by cultivation, their soil is capable of yielding products of the corresponding climatic zones in the Northern Hemisphere, such as the vine, mulberry, silk, and tea, while at the Cape valuable drugs are indigenous. In these markets the idea of reciprocity arises

spontaneously, and a larger population is **only wanted to increase trade—settlers to open out the colonies further and further**, who have, as a rule, absolutely British tastes.

The **Australian market** is the best of these colonies. The population grows rapidly, “by reason of its inherent vitality and the stream of immigration from the mother-country;” and the people are willing purchasers. They are beginning to manufacture, but at present their efforts are small, and the products used chiefly to supplement the imported requirements. **The population is growing quicker than these industries**; the main work is the improvement of the land and the heaping together of raw material to interchange with England or elsewhere.

On the sites of the mineral deposits the diggers favour manufactures, but it is only in the densely populated colonies where our export trade is at all likely to fall off by reason of the native supplies.

Several of the colonies begin to take prominence as wine-growing countries. They differ in the aspect of markets. Victoria and New South Wales are not so dependent upon us. They are able to devote themselves to manufacture and to new agricultural industries instead of merely opening up new ground.

In **Queensland and South Australia** the chief occupation yet is opening out and developing their resources; consequently they look to us for manufactures, which they get direct or from the more advanced colonies.

West Australia, not so far advanced, is bidding high for emigrant settlers, and the knowledge of abundant raw material encourages us to promote this emigration, for reciprocal interchange would follow.

North Australia is hardly touched. The riches are there; “the fields are white for harvest, but the labourers are few.” Greater abundance of mineral earth-gifts are supposed to exist in the north than in any part of Australia.

Tasmania and New Zealand are more limited in extent; in

the latter especially more working settlers to develop the natural resources are wanted. In the meantime the New Zealanders are as far advanced as any colony in prosecuting native industries.

The prevalence of British tastes and fashions in these extensive colonies tends to increase the strong conservatism of English ideas as to manufacture. It does not follow that what will suit in England will necessarily suit in Australia. There is as much need of supplying what the exigencies of the climate or surroundings make the people desire here as in any part of the world.

The "Times" of 4th May 1886 says:—"Australasians have told me with sincere regret how their business with England diminishes year by year, while that with the United States increases, solely because the manufacturers of the latter country take pains to accommodate their customers, which the English will not do." In other words, here was a new market, because there was a felt want, and we let the opportunity slip.

Canada does not compare so well with Australia, partly *because of fiscal restrictions*, which tend to increase, and partly *because of the proximity of the United States*. The tide of immigration, too, is only just beginning to make itself felt towards the west, and therefore the purchasing power of the colony is somewhat less than Australia.

Now that transit facilities are so much eased by the opening of the Canadian Pacific line, more produce will be poured into the market, and the nearness of Canada to England ensures a prosperous interchange. Customs tariffs and the home manufactures of Canada, however, impose barriers which do not exist so extensively in our other colonies.

Canada represents a new market of the first order; that is to say, a settler's colony, where the object is the opening up of the country, and consequently a desire for agricultural implements and all manufactures. This colony "possesses the largest extent of cultivable land yet opened for settlement,

adapted to the growth of the productions of the temperate climates, not only on the American continent, but in the world." This will throw a large quantity of raw material upon the markets of the globe.

On the other hand, **Canada manufactures for herself more than any other colony**, and consequently requires less from us. We shall not buy her raw material simply because she is our colony, or because she lies so near to us, unless we can exchange our manufactures for it, or unless it is cheaper than any other raw material of similar quality in the world. Hence, as Canada manufactures for herself to a great extent, and as she bars our goods by fiscal restriction, we should look for a less rapid advance, if not diminished and diminishing trade; and the returns indicate this fact, having regard to increase of population. (See "Recent and Existing Commerce," p. 441.) As the settlers advance westwards and their requirements become more extensive, Canada possibly may come to England to supply her needs, and we shall be ready to do so in exchange for her rich stores.

On the one hand, unless Canada will interchange with us, our merchants will refuse to buy only, unless it suits their purpose. On the other hand, felt wants must arise in Canada through increased population, hence new markets; and **we must be ready to take the first step to meet the demand.**

131. Cape Colony opens up a vista of extensive dealings in the future. Railways are being pushed forward, the population is increasing, but the tide of emigration does not set so steadily in this direction as to the other colonies. The produce is analogous to that of Australia, and the interchange similar. The prospect of enlarged trade before these colonies of the Cape and Natal is unsurpassed, *because there is practically the whole of the African continent before them.* Competent authorities consider that **the riches of the interior of Africa will be tapped from the south**; and a railway from Kimberley to the Zambesi will do much to infuse progress and a desire for better things among the natives.

As soon as they experience the felt want of European customs and civilisation, a remunerative interchange must set up between Africa and England by her southern merchants and dealers.

Until the natives of Africa experience the blessings of European civilisation they have not European wants. "What the eye does not see, the heart does not long for." The same laws prevail here as all over the world ; and as our colonies in the south extend their civilising influences towards the north **the natives must benefit thereby, and seeing the advantages of civilisation, will want to copy them.**

The effect upon England will be great, by reason of her possessions in South Africa. "Central African trade," says the *Quarterly Review*, "will never be got at from the north, but only from the south. Its wealth will be ultimately set free through Bechuanaland, the people of Damaraland . . . already carrying on trade as far as Lake Ngami. In a few years it will be pushed right up to the Zambesi, and will probably include the Metchele country, which is well within the tropics, and is said to be rich in gold."

It will be quite possible to join Kimberley by rail to the Zambesi; then the link will be complete. "Civilisation is steadily advancing northwards from Bechuanaland." "The gate to the heart of Central Africa is not through Khartoum, but through Bechuanaland, and it is to be hoped the Colonial Office will take care to keep it open." **Here is a new market for the future.**

Our West African colonies are somewhat different from the trading-stations of Aden, Singapore, Labuan, and Hong-Kong; because, whilst these are absolutely limited in area, Sierra Leone and Gambia are in touch with the countless myriads of Central Africa, most of whom are disposed to trade—to barter the natural resources of their country for our goods. Although the trade that passes through the ports along these coasts to the natives of the interior is very extensive, "they will never be regarded as desirable centres of

European colonisation owing to the unhealthiness of the climate." Only the exigencies of trade or government will induce Englishmen to reside there.

Another thing that operates against free and active interchange is the continual agitation among the tribes—*inter-tribal war*—that occurs "on the borders or in the neighbourhood of the settlements. Provided that the routes into the interior are kept open, and the peaceful native traders—of whom there are many—are not interfered with by warlike and predatory neighbours, the trade of the various settlements is capable of illimitable extension, inasmuch as their position on the sea-coast makes them natural outlets for a portion of the commerce of Central Africa." Elements of new markets exist in this region similar to those of South Africa. Sawakin, Mombasa, and Quilimane have been named as prospectively important.

132. Our great dependency of India, coupled with the newly acquired Burmese territory, opens up **new markets now ready**. Here we have raw materials in great abundance and of great value, with a large population, some of whom require conciliating, but who are generally eager to exchange their superabundance of produce for our manufactures. **This is, however, a market waiting means of communication.** Mr. Colquhoun, an authority on Indian matters, describes Burmah as the best "unopened market in the world."

Much produce absolutely is lost because there is no means of transport to the coast. The only thing needed to bring the people, who are already feeling the want of European goods, into direct commercial dealings with us, is to open up the country. Capital and energy so expended will reap a magnificent harvest.

India is now manufacturing largely, and Englishmen are crying out that we are losing the trade. As soon as a country is strong enough to manufacture for itself, and has the raw material at hand, it will do so, provided it cannot obtain

better terms elsewhere. In other words, the manufacturing industry could not thrive while the country could import more cheaply than it could fabricate. Indian manufacturing industry is only in its infancy, yet its development proves that India is beginning to manufacture at a less cost than she formerly imported—the experience of France and Germany over again.

Instead, however, of throwing obstacles in the way, we ought to congratulate India on being able to stand alone; we ought to open out new markets in her midst, by creating fresh wants, by improving our own manufactures, exporting them, and letting India feel that she must still come to England for the purchase of the novelty to supply those wants.

Although transit communications are greatly improved in India, there yet remains much to be done; for ease of transit increases the purchasing power of the people, inasmuch as they can exchange their produce for goods, instead of letting it lie wasting for want of conveyance.

Having examined our colonies as new markets, we find **Australia and the Cape** with ample produce, both **willing to exchange** for English goods, provided we supply them with what they desire. **Canada** offers us her raw material, but **hangs back** from accepting our goods, saying she can manufacture as well. This, however, cannot be correct while she can only keep British goods out of the Dominion by laying an embargo upon them of heavy customs duties. The **West African settlements** as transit-stations show us their riches, which the people are **contented to exchange** for our goods; but a bar occurs in the unhealthy climate and continued tribal wars. **Burmah** waits means of communication; her populations are **only too ready to trade**, provided we can suit them; and lastly, **India** is a **continual new market**, as communications are opened up, for the people get more imbued with European ideas, and consequently have more wants.

133. Let us now glance at the markets of the second

order ; namely, countries having extensive products of commercial value, with a considerable population, who would exchange their produce for British goods supposing these were offered in suitable guise, or if fiscal burdens would allow it. Here at the start we must divide the countries into two classes, those possessing ample transit facilities and those without.

China, the great centre of Eastern civilisation, is an immense country, with a teeming population, admirable means of internal transport, a fine sea-board, and having extensive territories on her inland frontiers. China at present is politically debarred from foreign commerce, except at a few open or treaty ports. The time will soon come, however, as it has already come to Japan, when these barriers will be thrown down ; then the rush of European arts and civilisation will create such wants as the Chinese have no knowledge of as yet. We have our wholesale store in Hong-Kong, at the gate of China, supplemented by Singapore, the gate between the eastern and the western seas ; and all we can do is to wait, studying meantime Chinese wishes, for to realise these desires the Chinaman will be prepared to make favourable interchange. India and Burmah, parts of our Empire, will help us, for it is probable that China will be approached in the rear by railways and by way of our Burmese acquisitions.

Thibet is another new market of large territory and population, but without available means of transport ; at present it is as exclusive as China, but some considerable trade filters down through Cashmere and Northern India, giving us an idea of a large future commerce.

Japan, Brazil, La Plata, Mexico, the United States, the Turkish Empire, Russia, and Austro-Hungary are countries that will come under our second class of markets.

Our third point has already been fully explained on a former page. The fourth point, too, has been exemplified by Morocco ; to this we may add Abyssinia, Chili, Peru, Ecuador, Central America, and the Persian territories.

The fifth and last point has also been fully considered; we could add many more countries to this list.

It may be said that we have not shown any "new markets;" there are now no fresh places where we can have the field all to ourselves—buy, sell, and make gain. But *if a felt want anywhere for anything constitutes a "new market,"* we have shown that requirements increase in *every* part of the world, some offering better, some less favourable inducements, but all subject to the same laws of progress.

There are new opportunities for commerce arising every day, and if we do not take advantage of them others will. We sometimes have to admit, "Why, here was a good opening before our eyes, and we let it slip!" For instance, we see German toys and Waterbury clocks and watches in our English shop-windows, while Birmingham is the "toyshop of England." We need to be observant, to send qualified men far and near to find out or, where possible, create wants, for the future, and then follow the issue to the end. By so doing there will be no risk of England losing her commercial supremacy in any market, new or old.

QUESTIONS.

Pars.

- 127.—1. What are new markets? Where must they be primarily sought or "created," and under what precautions?
- 128.—2. Show how the material progress of France and Germany has modified England's position in some markets.
- 130 and 131.—3. Describe the colonial markets, dependencies of England, taking either those of the Eastern or those of the Western Hemisphere.
- 132.—4. Give in detail the commercial capabilities of India.
- 133.—5. Exemplify markets of primary and of secondary rank.

CHAPTER XVIII.

FELLOW-TRADERS.

Par. 134. Effect of climate upon industrial energy.—135. The course of commercial movements governed by physical conditions.—136. Our customers and our competitors. Competition at home as well as in foreign markets.—137. England's customers.—138. The "course" of British trade.—139. Proportionate imports and exports, in tabulated form.—140. Our rivals in foreign markets.—141. Commercial working of competition.—142. Review and inferences.

134. The vigour of man is the most developed only in temperate zones. In the frigid north climate is an effectual bar to industrial work of any magnitude, and in tropical zones nature is so exuberant in her yield, that she, as it were, yields to the lassitude of the inhabitants, who are content so long as they can secure what they require from other countries in exchange for the produce of an abundant fertility. Thus we cannot look for any industrial work there of any consequence, and hence no competition.

"The Otaheitians," according to the missionary Ellis, "will not cultivate the arrowroot, because it costs them some trouble. Though capable of being procured in any quantity, it requires labour to render it fit for food. On this account it was not extensively used by them, but formed rather a variety in their dishes at public feastings than an article of general consumption. Their yam, too, or sweet potato, is cultivated to no very great extent, from the same cause, although one of their best-flavoured and most nutritive roots."

Again: "When the Tahitians were exhorted to adopt the comforts of Europeans, they answered, 'We should like those

things very well, but we cannot have them without working; that we do not like, and would therefore rather do without them. The bananas and plantains ripen on the trees; the pigs fatten on the fruits that fall beneath them. These are all we want. Why, therefore, should we work?'

"The missionaries found they could make no progress in civilising the Tahitians but by causing wants to arise in their minds. Their wants were few; their desires were limited to the means of mere animal existence and enjoyment. These were supplied without much anxiety or effort, and possessing these they were satisfied. All classes were insensible to the gratification arising from mental improvement, to the enjoyment of social and domestic life, to the comforts of home, and to the refinements and conveniences which art and labour impart. To increase these wants, or to make some of the comforts and decencies of society as desirable as the bare necessities of life, seemed the best incitement to personal industry."

These remarks point a moral to our previous observations on "new markets," with reference to the opening up of the Central African trade, **by educating the natives to a sense of want**, then to increase their wants, and so incite to personal industry an active interchange and a higher civilisation.

135. For the reasons stated, **we should expect to find our keenest competitors situated in similar latitudes to ourselves, and those that minister to our necessities, conveniences, comforts, and luxuries in almost every climatic belt of the world, because each zone has its own peculiar products.**

It would be useless to possess various earth-gifts unless there were ample and expeditious means of transit for their distribution and redistribution. Here also, as for the gifts, we must first look to nature. Physical features, hill and dale, plain and valley, determine the course of merchandise, by precisely the same law as that of rivers **by gravitation**, to return to the simile of the funnel, from the top sides to the narrow end. A grand industrial centre in the middle of the Sahara, without any means of getting to it or from it, would

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be perfectly useless; it would become by its very situation stagnant; in fact, such a centre could never be developed. A centre placed on a coalfield, by the side of a hill, or in a valley where the rains and springs send down their waters obtains at once the required natural outlet.

In order to understand commercial movements, we must understand, first, the physical features of a country, its natural gravitation, and then the means man's ingenuity has devised to go beyond the aid or the opposition of nature.

Merchandise will necessarily converge to a focus—the sea-port—because it is only from seaports that foreign distribution can be effected. We leave out of the question the few European countries enabled through contiguity to interchange by land, because this trade does not really come under the designation of foreign trade. **Foreign trade, in common parlance, means sea-borne trade.**

The seaports, then, are really the distributing centres, sending out goods on the one hand by sea, and on the other by the railways which have their termini at these ports. Each port represents the centre of a half wheel, or the axle; the spokes represent the railways, canals, and rivers; and the outer rim, where each spoke begins or ends, represents other industrial centres. We have therefore, in tracing the movements of commerce in a country, to place our wheel, or, better, our funnel, in accordance with the physical features, over each area or sub-area, and then we shall find the common centre, the thin end of the funnel, in the port.

Before the era of railways each area was more or less isolated, its distributive area was restricted; but now area overlaps area, and country country, and this somewhat complicates movements. But there are laws, not far to seek, that regulate all the traffic. *There are two mainsprings to these movements, speed and price, or freight*; speed being essential for perishable articles, and freight the keynote of industrial life as far as competition is concerned. No country, any more

than an individual, will give twenty-one shillings for what can be obtained as easily for twenty. To comprehend the principle of these movements a student should understand clearly the natural area concerned.

136. All countries are our customers, directly or indirectly—excepting such places as Central Africa and some parts of Central Asia—but all countries are not our competitors. We look for these last in our own zone, and find them in Germany, Belgium, France, Switzerland, and the United States.

Competition is not limited to foreign markets, where each cloth or other article of merchandise competes against its counterpart; as, for example, Germany or France competing against England in China for the supply of cotton goods, though this is generally looked upon as the most severe competition—strife at the end of the line. In point of fact, competition is just as severe at home, but less noticeable, being more covert.

Whenever and wherever other countries supply England with goods that she could just as well supply herself with, there we have to acknowledge ourselves beaten; and this competition should stir our merchants, just as much as the continued cry of “More new markets in which to dispose of our goods!” or, “Germany, if not some other country, is trying to cut us out in such and such a market.” Take, for example, the butter and dairy produce of Holland and Denmark, the cheese of Canada, the toys of Nuremburg, or the watches and clocks of America and Switzerland.

The United Kingdom could not *at once* supply all the dairy-produce she requires for consumption; but there are, doubtlessly, many tracts in England and Ireland where such an industry could be carried on remuneratively, and thus some of the millions sterling which now go to reimburse other lands would circulate in our own. We ought, too, certainly to be able to make toys and watches as well and as cheaply as our competitors.

The lesson from this is, that **competition exists on every side**, and it is useless fixing our vision on far-off spots and shutting out what is going on around us. We have selected England and English industries to illustrate our point, but the same law and lesson can be read in every country.

Let a student examine very carefully any map, and, first tracing by the physical features what must necessarily be the ebb and flow of merchandise, carry his inquiries to the industrial centres analogous to those of England. We can, as before stated, ignore as *competitors* industries which can only yield us good, such as wine-making, olive-oil manufacture, &c. Let him then investigate how railways have assisted distribution, and where, by overleaping physical difficulties, they have drawn the merchandise of one trade into that of another.

Although we traffic with *all* countries in the world, either directly or indirectly, fiscal restrictions influence trade very considerably. Take, for instance, Russia; as there is a heavy "protection" to foster home industries, we are certain to buy more from Russia than we sell to her. This course is not productive of a large commerce, for merchants will not deal with a country where they can only buy and not sell, unless an advantage is given in some other way. Russia is the reserve granary of Europe, and England does a large *carrying* trade in grain for other nations, and at the same time falls back on Russia for any deficiency she may be required to make up.

137. The countries from which we import the most are in the following order:—The United States, France, India, Holland, Australasia, Germany, Russia, Belgium, British North America, Spain, Egypt, China, Sweden, Denmark, South Africa, the Straits Settlements, Brazil, Colonial Holland, Asiatic Turkey, Italy, Norway, Roumania, Portugal, the West Indies, Chili, Ceylon, Austro-Hungary, Colonial Spain, Greece, Peru, La Plata, Turkey in Europe, British Guiana, Central America, West Africa, Hong-Kong, Colonial France, the Channel Islands, British Gold Coast, Mexico, Uruguay, Tri-

poli and Tunis, Japan, Morocco, Mauritius, Bulgaria, Servia, and Montenegro, Colonial Portugal, Colombia, British Honduras, Venezuela, Aden, Bolivia, Ecuador, Gambia and Sierra Leone, East Africa, Hayti and San Domingo, Cochin-China, &c., Siam, the Pacific Islands, the Falkland Islands, Persia, Malta, the Indian Seas Native States, Gibraltar, Madagascar, Bermudas, St. Helena, and Muscat region.

We export—that is, sell—goods to countries in the following order:—The United States, India, Australasia, Germany, France, Holland, Belgium, British North America, Italy, Russia, Brazil, China, La Plata, South Africa, Hong-Kong, Spain, Egypt, European Turkey, Sweden, Colonial Spain, Asiatic Turkey, the Straits Settlements, Denmark, Japan, Portugal, the West Indies, Colonial Holland, Norway, Chili, Malta, Austro-Hungary, West Africa, Greece, Mexico, Roumania, Peru, Colonial France, Gibraltar, the Channel Islands, Colombia, Central America, British Guiana, Colonial Portugal, Ceylon, Morocco, the Gold Coast, Hayti and San Domingo, Venezuela, Persia, Mauritius, Gambia and Sierra Leone, Aden, East Africa, Ecuador, Bulgaria, Servia, and Montenegro, British Honduras, Tripoli and Tunis, the Pacific Islands, Bolivia, Bermudas, Siam, Cochin-China, &c., the Falkland Islands, St. Helena, Abyssinia, Madagascar, Ascension, Indian Seas Native States, Muscat, and Borneo.

138. A consideration of the order of these countries, comparing one list with the other, will give the student a very good idea of the course of British trade. The lists are instructive; look at one or two cases. **The flat lands of Holland** have, by the steady perseverance of the Dutch, been so enriched that splendid pastures, on which browse well-fattened cattle, cover the country. Deprived of mineral resources and condemned to a low, alluvial soil and a moist climate, the Dutch went energetically to work to improve what they had, and paying much attention to dairy-produce, are now enabled to supply England with butter and cheese, valued in money at millions of pounds sterling, and have raised themselves into

the position of being *fourth* on the list of those countries which are able to offer inducements to England to buy. On the other hand, England fails to persuade Holland to take quite so much of her productions and manufactures in return; accordingly, she stands *sixth* on the export list.

Once again, look at **our trading, entrepôt, and defence stations**. We know they have as a rule nothing to send us, but we hope and expect to export largely to them. Take **Hong-Kong** or **Malta**; the former stands *thirty-sixth*, and the latter *sixty-second*, on the list of countries sending to us, but *fifteenth* and *thirtieth* on that of countries to which we send goods. This is only what we should expect from the lessons we have learnt.

By studying the proportion of exports to imports in several countries, the student will be able to compare the trade of one country with that of another, and can draw his own conclusions as to the reason of any difference.

139. The proportions in the countries from which we import largely in excess of exporting are as follows:¹—Russia, $\frac{17}{6}$, that is, as 17 imports is to 6 exports; Sweden, $\frac{8}{3}$; Denmark, $\frac{48}{23}$; Holland, $\frac{5}{3}$; Colonial Holland, $\frac{31}{10}$; France, $\frac{35}{3}$; Spain, $\frac{9}{4}$; Austro-Hungary, $\frac{2}{1}$; Greece, $\frac{2}{1}$; Bulgaria, &c, $\frac{3}{1}$; Roumania, $\frac{27}{8}$; Egypt, $\frac{88}{37}$; Tripoli and Tunis, $\frac{53}{9}$; Indian Seas Native States, $\frac{14}{1}$; Siam, $\frac{30}{2}$; China, $\frac{8}{3}$; the United States, $\frac{86}{31}$; Central America, $\frac{10}{7}$; Peru, $\frac{9}{4}$; Bolivia, $\frac{8}{3}$; Chili, $\frac{5}{3}$; British Gold Coast, $\frac{73}{50}$; Straits Settlements, $\frac{44}{5}$; Ceylon, $\frac{23}{5}$; Canada, $\frac{5}{4}$; British Guiana, $\frac{7}{3}$; Honduras, $\frac{3}{10}$; and the Falkland Islands, as 81 to 26.

The proportions in those countries whither we export largely in excess of importing, are:—Germany, as 27 exports is to 23 imports; Colonial Portugal, $\frac{57}{26}$; Italy, $\frac{7}{3}$; Turkey in Europe, $\frac{12}{5}$; East Africa, $\frac{5}{3}$; Persia, $\frac{4}{1}$; Japan, $\frac{23}{3}$; Hayti,

¹ These figures are not fractions, but are to be read thus, "For every £17 worth of goods we import from Russia we send her £6 worth, &c. &c." The fractional style is adopted as being the easiest. It can also be read that Russia sends us nearly three times as much as she gets from us; i.e., divide the numerator by the denominator.

$\frac{37}{11}$; Colombia, $\frac{70}{23}$; Brazil, $\frac{7}{5}$; Uruguay, $\frac{7}{8}$; La Plata, $\frac{47}{18}$; Gibraltar, $\frac{143}{3}$; Malta, $\frac{59}{4}$; Gambia, $\frac{25}{14}$; St. Helena, $\frac{12}{1}$; Hong-Kong, $\frac{4}{1}$; Australia, $\frac{28}{3}$; and Bermudas, $\frac{18}{1}$; while India is about even, $\frac{1}{1}$.

This, again, is a very instructive list. We see our trading-stations, according to their position for internal consumption and for further distribution, taking goods from us in large ratios. We see interchange with our best colonies running nearly even between imports and exports, except in the case of Canada, where "protection" against British goods tends to increase, and there we find that for every £500 worth of goods we get from her we only send her back £400 worth of our manufactured or other merchandise.

Some of the returns are remarkable in relation to the limited area of the countries; for instance, Japan takes over four times as much from us as what she sends us, and Colombia three times as much, while, on the other hand, backward Greece gives us twice as much of her earth-gifts as what she demands from us for comforts and luxuries.

140. Where and against whom is England likely to have to compete? We find competitors in the following markets:—In **Australia** we meet with the United States, France, and Belgium; in **Canada**, the United States; in the **Straits Settlements**, the Netherlands; in **India**, France, Italy, the United States, Belgium, Austria, and Germany; in **East Africa**, Germany, the United States, and France; in **Venezuela**, the United States, France, and Germany; in **Uruguay**, France, the United States, and Spain; in the **United States**, France, Germany, and Belgium.

In **Turkey** we find ourselves opposed by France, Austria, Belgium, and Russia; in **Sweden**, by Denmark, France, and Germany; in **Norway**, by Germany, Sweden, and Denmark; in **Spain**, by France and the United States; in **Servia**, by Turkey, Germany, and Austria; in **Russia**, by Germany; in **Roumania**, by Austria, Germany, and France; in **Portugal**, by France; in **Holland**, by Germany and Belgium; in

Morocco, by France and Spain ; in **Mexico**, by France and the United States ; in **Madagascar**, by France and the United States ; in **Japan**, by the United States, France, Russia, and Germany ; in **Italy**, by France, Austria, and Germany ; in **Hayti** and **San Domingo**, by the United States ; and in **Greece**, by Austria, Turkey, and France.

In **Germany** we meet Austria, Belgium, Russia, and France ; in **France**, Belgium, Germany, and Spain ; in **Egypt**, Turkey and France ; in **Denmark**, Germany and Scandinavia ; in **China**, Germany, France, and the United States ; in **Chili**, Germany, France, and the United States ; in **Central America**, France and the United States ; in **Brazil**, the United States, France, and Germany ; in **Belgium**, France, Holland, Germany, and the United States ; in **La Plata**, France, Belgium, and Spain ; and in **Austro-Hungary**, Turkey, Germany, Italy, and Russia.

141. We have thus traced the competitive markets of the world, and suggestive lessons can be read therefrom ; we can see what other nations are pushing themselves most prominently forward in the world's commerce, and where these countries are not all our competitors, in the sense of having cotton or other special goods to "run" against those of England, but they are competitors in the various markets for the goods of that country, and of course offering some interchange ; but the bare fact of a demand in any one country by two or three nations forces up the market ; in other words, introduces the element of competition for the article, either in buying or selling.

Contiguity also promotes interchange. Therefore when we deal with France we must expect to meet her frontier neighbours in her markets.

142. The lessons brought out by these lists are, that *certain* countries are our best customers, that is, buy most from us ; *some* are our best suppliers, *some* are prosecuting an even exchange, and *some* are large competitors, while in *each* we find some opposition countries trying their utmost to secure a share of the business. Why is all this ? The student having

a knowledge of commercial geography can answer the question. Then knowing whom we have to face, and where, he should bring all his knowledge to bear upon the contest.

He must, as already stated, know where the best markets are, what are the means of approach, what are the internal means of distribution, the natural ebb and flow of merchandise, and wherein one country differs from another in position, such as France washed by three seas, and Germany only by one, and that a northern one. This information we generally seek from maps, and therefore a student must know, further, how to "read" a map.

From well-drawn and clearly defined natural features, he must be able to decide the natural gravitation of produce; by his knowledge of the geological structure of a country and the climatic zone, he must be able to determine fairly accurately the sites and nature of the industries, to define the town harvests and the country harvests, as well as to name the varied products of any particular region.

QUESTIONS.

Pars.

- 134.—1. Show how the industrial energy of races is affected by climatic influences.
- 135.—2. Examine this thesis: "To interpret commercial movements in any country, we need to know the physical features of that country, its natural gravitation, and the means devised by man to surmount difficulties of transit and transport."
- 136.—3 What resources are open to England to meet competition of neighbouring nations? Mention industries with which we cannot compete, although situated in the same climatic zone as our own, and say why.
- 137-139.—4 Enumerate the principal States to which we export and from which we import goods.
5. Give instances among those States both of equal and of divergent proportions of exports to imports, and assign reasons for these proportions.
- 140 and 141.—6. What States are the chief manufacturing competitors with England? and in what markets?

CHAPTER XIX.

RIVALS IN BUSINESS.

Par. 143. Germany; physical conditions for commerce; river systems.—144. A gravitation of merchandise to natural centres.—145. Industrial activity indicated by physical features.—146. Manufacturing area; analogy with England.—147. Introduction of railways.—148. Germany as a commercial rival of England.—149. German industries and interchange.—150. German markets, entrepôts, and emporiums. 151. Southern Germany.—152. Danubian trade.—153. International transit.—154. Cheapness an ultimate test.—155. Commerce as a science.

143. It is possible to “read” from any good map the ebb and flow of goods in a territory, and also largely to determine the nature of the national industries. Let us examine this thesis. Open any Atlas at Central Europe; we see first, in the north, **Germany**, a country situated in the heart of the Continent, having a sea-coast of about one thousand miles—divided between the Baltic and North Seas—wherefrom to carry on her foreign or sea-borne trade; encompassed on the west and south by busy industrial States, on the east by the greatest grain-bearing country of Europe, and with all these able to interchange without resorting to the seaports at all.

But yet the ports are really the starting-places of her commerce, for neighbouring countries do not, as a rule, exchange *similar* commodities, any more than one man in a town exchanges one loaf of bread for another.

Examine the following business transaction:—Germany sends some cotton-cloth to France across the frontiers; France reciprocates by the same route, with silk goods; and here, seemingly, the seaports are of no use. *But how did*

Germany get her cotton to make the cloth? how did France obtain her silk? Was it not through the seaports? Was not Bremen the landing-place of that cotton for Germany, and Marseilles of that silk for France? So, even in internal international trade, the seaports are generally the governing centres both of industry and commercial movements.

Now study the physical features; some three hundred miles inland, and running nearly parallel with the sea-coast, is a range of mountains, which, from the valley of the Rhine, extends through the country; and between these mountains and the Baltic Sea is a level plain, through which run several rivers, fed from these mountains and emptying into the seas of the north; this constitutes what we may term a "gravitating area" (No. 1).

In this area we see that the natural flow of the rivers from the watershed of the highlands is through the great plain of Europe *northwards*, emptying into the Baltic and North Seas. For instance, the **Vistula**, fed from the mountain-springs of the Carpathian Mountains, and navigable to Cracow, flows at first easterly, then curving westwards, discharges its waters into the Baltic at **Dantzic**. This river therefore embraces a large circle of Poland, and drains naturally the merchandise of Poland and of West Prussia.

The **Warta** and the **Oder**, navigable from Breslau, give the same facilities through Central Germany, and send out their waters at the port of **Stettin**. The **Elbe**, with steamers running to **Leitmeritz**, drains the country next west, and coursing in a westerly direction, comes out at **Hamburg**. Hanover and part of Westphalia are served by the **Weser** and the **Aller**, discharging their waters near **Bremen**. The **Weser** is sand-blocked, and requires shallow, flat-bottomed boats for transit purposes. Finally, Western Westphalia is drained by the **Rhine** and its tributaries.

The **Rhine** is a great international waterway, navigable for small steamers to Basle, and for regular boats to Mannheim. Rising in Switzerland, it forms the frontier between that

country and Germany (Baden), then between the old French province of Alsace and Baden, and thence flowing through the Rhenish provinces of Germany and skirting Westphalia, it traverses the Netherlands, and has its outlet in the North Sea, on the Western European coast, opposite Harwich.

The plain slopes gently to the shores of the Baltic, and no part is far removed from a river. *As there is no decided "fall," the course of the waters is sluggish, and therefore well suited for commerce*—a rapid river being difficult to navigate. By reason of the sluggishness of stream the beds of the rivers are shallow, the force of current not being sufficient to carry away the deposits. The ingenuity of man has improved these water facilities by connecting each river with the other by means of canals. Thus, a small steamer taking the Vistula at Dantzic could, by the Bromberg Canal, join the Warta and Oder; then by the Müllerose Canal, the Spree and the Elbe; thence the Ocker connects with the river Aller, descending which she would reach the Weser and Bremen.

144. It is now easy to determine how, and by what routes, the produce of the plain and the mountain levels will gravitate to the sea. All goods making Dantzic, Stettin, or Lubeck their embarking ports go out into the Baltic; those by Hamburg or Bremen, into the North Sea. Hence the carrying of goods to or from the first-named ports is styled "being employed in the '*Baltic trade*,'" and that of the two latter the "*general trade*"—this term being used for all ports between Hamburg and Gibraltar, comprising many countries and varied produce.

145. Looking at these physical features, what industrial occupations should we expect to find over this area? There is a plain of over a thousand miles in length, by about three hundred broad, sandy and stony, but interspersed freely with good cereal and root lands, like those of our own Fen country. Further, like our eastern counties, there are no economic minerals until we reach the mountains, where mineral

resources similar to ours abound. Hence from the sea to the hills we should look for *rural occupations*, with here and there on the rivers a *reproduction of the market-towns of England*; while clustering on the metal and mineral fields adjacent to the hills we should expect to see *town pursuits*—*industrial life*—paramount.

One authority describes the plain of Northern Germany as “a region but little fruitful; still it includes fine pastures, where cattle and horses are reared.” There is so much sand that agriculture can be carried on only by hard work, by well-manuring and carefully looking after the ground. But this industry has made great progress.

“The best cultivated parts of North Germany are Mecklenburg, Holstein, Hanover, on the sea-coast, along the courses of the Elbe and Weser; Anhalt, round Magdeburg, West Saxony, and Silesia, between the Oder and Riesen-Gebirge. The least cultivated parts are the sandy Luneburg lands of Hanover, the Landes of Brandenburg and of Lower Lusatia.” The borders of the hills and the valleys are richly wooded, and much of Prussia is covered with fir forests.

The low banks of the rivers threaten, after the melting of the winter snows, to inundate the country for many miles round. This catastrophe occurred in the spring of 1888. Many leagues were flooded, and as the water subsided a heavy layer of sand was deposited, rendering the country barren for years. These liabilities to disaster are a serious drawback to agricultural pursuits, as they discourage the investment of capital; further, such calamities very seriously affect the supply of the necessities of life to the people.

On the plain, wheat, barley, oats, rye, vetches, peas, beans, lentils, cumin, anise, potatoes, flax, hemp, tobacco, hops, colza, poppy, mustard, beetroot, madder, vegetables, and fruit-trees are all cultivated. Agriculture is the paramount occupation, and includes, besides ordinary cultivation, beetroot-sugar manufacture and beer and spirit distilling industries.

From the extent of the barley grown and from the prevalence of pastures, we see that this area covers, as England, the "beer and butter region" of the temperate climatic zone. The sheep bred and reared in Saxony produce a long, silky fleece, the finest quality for manufacture; their wool is well known in England, just as the English sheep are renowned in various parts of the world.

146. Turning to **manufacturing industries**, we find them situated, in chief, on the coal and iron fields of Saxony, the Erz-Gebirge, Silesia, the Riesen-Gebirge, and Westphalia, in the district watered by the river Ruhr. We find in these regions industries analogous to those of England; in the Elberfeld circle we repeat those of Birmingham and the Midlands combined with Manchester, while the Chemnitz circle reproduces Manchester and Leeds.

The manufactures include iron, steel, cutlery, machinery, and all hardware, watchmaking, chemicals, caoutchouc, stearine, glass, porcelain, refining of sugars, distilleries, breweries, sawing-mills and woodwork, cotton, hemp, flax, hosiery, wool, silk, lace, tanning, cordage, gloves, cheese, bacon and hams, paper, &c. These industries are all reproductions of those carried on in England, each one having its analogue in Great Britain.

147. Without taking railways into account, all the raw mineral produce, all the agricultural earth-gifts, and all the manufactured products of the Elberfeld circle *would naturally float down the Rhine* for over-sea distribution, while the Hanover districts *would utilise the Weser and the Aller*, with Bremen as the port. Chemnitz and Dresden goods *would flow down the Elbe* to Hamburg; Breslau and neighbourhood *would use the Oder* and port of Stettin, while the plains of Poland *would utilise the Vistula* and Dantzic.

This is what in reality does occur, these four ports being the most important in Germany. But man has expedited transit by the introduction of railways; now these auxiliaries to traffic unite the centres, one with another,

and with these ports, but they follow very regularly the course of the rivers from the manufacturing centres to the sea.

By the crossing and recrossing of lines many railway centres have been formed in this area, such as Dortmund, near the Elberfeld circle, Hanover, Leipzig, Dresden, Berlin, and Breslau, so that goods destined "cross country," or internationally, by gravitating to the nearest railway centre can be distributed quickly in any direction.

Further, these lines have broken the almost insurmountable range of mountains, and allowed merchandise, by tunnels or gradients, to creep over or through these masses, and now permit an interchange between this area and the next, which was well-nigh impossible, on any large scale, in olden days; for then goods had to be carried in small parcels over the mountains by horses or men.

Observe that the only natural approach to the next area—the country over the mountains—without counting the great Rhine artery, is by the Elbe valley, besides two other breaks in the range of hills not favoured with streams.

The introduction of the railway has not altered the sites of industry, only increased their facilities. Manufactures cannot be carried on except where there is plenty of water-power, and we have already established the law that the proximity of fuel is an all-important adjunct; consequently we find the whole of the industrial population spread out and skirting the mountains from one end to the other, with the places named as the great "markets," exactly as the textile industry of England stretches from the Mersey to the Humber, with Manchester and Leeds as centres.

148. Germany carries on nearly every manufacture that England does, adding beet-sugar making and tobacco-growing. There must be markets for the goods, as it is impossible that the nation can consume all made, hence these manufactures must meet those of England somewhere (see former chapter). Further, as the whole "set" of the trade for manufactured

goods must be to the westward, because there can be no market *up* the Baltic, we find that Hamburg and the Rhine chiefly are utilised for sea-borne distribution, the other ports serving mainly for the storage of raw materials from the neighbourhood of their respective rivers.

The railways have introduced a divergence of the trade by enabling goods to "filter" through the mountains and make a descent upon the Adriatic, thus saving a very long sea-passage from the north round the west coast of Europe to the Mediterranean, Adriatic, Black Sea, or the East. These goods contribute to the "Mediterranean trade," while merchandise using the canal which joins the Elbe to the Danube, and finally drifting down the latter river, builds up the "Black Sea trade."

Dantzic is the most important raw material export German sea-town, because it is the nearest point to the vast agricultural districts, and is the natural outlet for the fir, pine, and oak products of the Prussian forests, as well as for the large, white and thin-skinned wheat of the Polish and Prussian plains, which finds a ready sale in Great Britain and other European countries.

149. Germany tries to introduce German goods into new markets, and to our customers, by the simple process of personal attention to the necessities and the "wants" of customers. In other words, English merchants stay at home and wait for orders, while German merchants solicit orders by personal visits, and, as a natural sequence, obtain an interest in all markets they try, not necessarily by better work, but rather by wisely canvassing for business.

We are told that "German industries are favoured by the abundance of raw materials, with mineral and vegetable fuel, by the happy 'run' of the streams, and by facility of communication—all of which are present in Germany in a perfection unexcelled by any country."

Germany has evinced her commercial intelligence by raising the insignificant works of a few years ago to gigantic

industries extending over miles of surface. This has been done by an expenditure of capital, which has given vast returns; the growth of the works is proved by the facility of distribution and the readiness with which she disposes of her productions, for if there were no sale there would be no increase of work. The freight, or cost of transit of heavy raw material and materials of small value, has been reduced. Produce goes largely by water-carriage to the very seats of the industries. Railways have been constructed up to the iron and coal beds; old burdens on industries have been removed; all latest improvements, whether copied from England or Belgium, have been adopted, and many originated; so that Germany has now some of the largest mineral works, notably those of Krupp at Essen.

Wool has long been a staple industry, and much of the native raw material is used up in home manufacture. England and Scotland buy the pure wool from the Glauchau-Chemnitz circle, partly for their own consumption, and partly for re-export; while all European nations and the United States are buyers.

Silk manufactures centre at Crefeld, Elberfeld circle. Here the waterways are quite as much used as the railways for the carriage of goods.

The central markets of this district are Leipzig, Frankfort-sur-Maine, and Brunswick. This area is an example of the beneficial effects of water communication on commerce; of transport competition between rail and stream.

Germany requires extraneous raw material, as England does. The Elberfeld circle being the most important cotton centre, and the nearest to the sea-board by an easy route, we find *Bremen the entrepôt and emporium for this material, and giving ready communication abroad.* Hamburg and Stettin also import cotton, but more especially for the Saxony and Silesian circles; and the same commodity comes up the Rhine from Rotterdam, from the English emporiums, and from Belgium *viâ* Cologne.

Hemp and **flax** from Russia find an entrance at Lubeck and Königsberg.

The **wools** of Spain, Russia, Austria, La Plata, and Australia come to Hamburg, or "in transit" from Austro-Hungary, Belgium, and England.

Food products—cereals—from Poland and Russia enter by canal direct, or by Dantzic, Rostock, and Lubeck; coffee and Eastern produce by Hamburg.

We have now seen the course of commercial movements in Germany, and the means employed for distribution and redistribution. Germany is, further, in touch with Russia on the east, Austro-Hungary and Switzerland on the south, and with France, Belgium, and Holland on the west; and with each of these she maintains a large international trade; not altogether "exchange," but largely "transit." For instance, Antwerp, the important seaport of Belgium, offers inducements for the shipment of German goods to or from all parts of the world, by the regular liners leaving that port; and it is easy to convey goods across Belgium, either by international waterways or rail.

The same facilities occur with each of the other countries, Switzerland deriving much profit by the passage of goods from Central Europe to the Mediterranean and Adriatic.

150. This frontier trade has occasioned the establishment of entrepôt and emporium towns near the division lines. Cologne, close to the Dusseldorf-Elberfeld circle, is the principal entrepôt for the Rhine lands, being in direct communication with Frankfort, all North and Central Germany, Belgium, France, and Holland. Steamers run constantly down the Rhine to Rotterdam, and up the river to Mannheim.

Augsburg, again, is the central entrepôt between Northern Europe and Italy. Ulm is the centre of a large commerce with Vienna, with which city it is connected both by rail and steamer on the Danube. Lastly, quoting M. Bainier, "Mannheim carries on very extensive commercial transactions; it manufactures enormous quantities of cigars, which

are exported to Australia and South America, *via Antwerp*. The principal articles of commerce in Mannheim are tobacco, sugar, and coffee, with which she provides all Germany and the south-west, and which she gathers from the Dutch East Indies; the wood of the Black and other forests she sends to Holland; the hops, porcelain, and crockery of Rhenish Prussia, colza-oil and poppy, the cereals and wines of the Palatinate, the agricultural implements of England, and the fruits and beer of the surrounding country she distributes in all directions." The large pastures of the plain give an employment in cattle-rearing and attendant industries of which we know very little in England.

151. Look at the map again—a southern area exists just over the mountains, apparently totally different from Area 1; here we touch the region of the vine, the outskirts of the "wine and oil countries," and leave the "beer and butter region" behind us; the climate is much warmer, and the industries will be different in character from those of the first area.

Industrial occupations follow nature's lines. In the Palatinate, on the Rhine and Moselle, *where the vine flourishes*, much attention is given to the *manufacture of wine*, where, indeed, it is a staple industry; while on the Prussian plain, *where the pasturage is unlimited*, sheep, cattle, and horse-grazing are staple employments, followed by their attendant *industries of working in skins, leather, and wool*. This last, under the style of Berlin wool, is a great industry in Northern Germany, where it supports many markets, such as Breslau, Posen, Stettin, Bautzen, Dresden, Leipzig, Weimar, and Kirchheim. Again, *the presence of forests*, notably the Black and Harz Forests, the Thuringerwald and Westerwald, *occasions many saw-mills*.

152. This second area is clearly defined; it is enclosed between the mountains already referred to, and the offshoots of the Alps on the south, thus including, in its "natural gravitation," the districts of Austria and Bohemia, in the "national area" of Austro-Hungary. It connects the flow of the Danube with that of the Elbe.

The highlands of Bavaria naturally seek the valley of the Danube for the circulation of their goods ; while Bohemia finds an exit north by the Elbe, or south by the Danube Canal. . This area is termed an "intermediate zone," because merchandise can and must either flow out into the north trades, or south into the Mediterranean trade, or west into the general trade.

The student can perceive under what disadvantages parts of this area laboured in respect to commercial movements before the days of railways, canals, and steamers. The means of reaching the sea-coast then were either by a laborious road-journey, or by floatage down a river which possessed only a "down-current," and whose course was turned away from the progressive trade-centres of Western Europe.

Cross the Alps, this area of South Central Europe carries on the flow of goods to the Adriatic, and enables us to connect the shores of the Baltic with the Adriatic and Mediterranean. The railways have given through communication in every direction, and *it is now as easy to send goods from North Germany to the ports of Trieste and Fiume, or to the south French or Italian ports, as to the Baltic and North Sea towns.* The distributing and redistributing areas of Central Europe are by these means much enlarged.

The map clearly introduces us to the "wine and oil " countries, and as it embraces the fertile plain of Lombardy, with its hemp and flax and fruits, including the vine and mulberry, we have reached the region of silk production. The lofty Alps, shutting out the cold northerly winds, make this area a veritable garden of Europe.

The river-courses here are much shorter, and the descent to the sea very rapid, the river-beds rocky, clean-swept of sediment, and only full of water after heavy rains or the melting of the snows ; the deposits being carried to the mouths of the rivers, where they remain to form in some cases pestilential marshes.

Now draw an imaginary line down the western side of the preceding areas, and study the country lying west ; see the

intimate connection between one part of the continent and another, by the various means of communication. We thus arrive at the conclusion that goods are not now confined for distribution to the ports of any one country or any one seaboard, but that climatic zones are natural, not national, and that in their flow rivers are uninfluenced by nationalities or political barriers.

153. By the system of international communications, German, Belgian, French, Swiss, or Italian goods meet in common centres. The map shows the gradations of the climatic zones from the orchards and pastures of the north, through the vine region, to the mulberry and olive zone of the south. Or again, from the beer of the north to the wine of the south, with cider as a common factor of both. Further, notice what an important position Switzerland holds as a transit country from Germany to the south, from France to the east, or from Austro-Hungary and Italy to the west and north.

Let the student now work out for himself the commercial movements of any country in the world.

Again, similar geological and climatic conditions yield analogous results, both in the flora and the fauna of a country, and also in the industrial occupations of the people. We fetch and carry for analogous countries the crude materials of other climes and soils, but we exchange with them little of our home produce.

154. We have examined the markets of the world, both analogous and dissimilar; and we may safely lay down the rule, that *"the only security for goods in any market is cheapness, and into a dear market cheap goods will make their way through all obstacles."* To this we must add quality; for goods, besides being cheap, must be of good workmanship, which, in fact, is a prime element of cheapness.

Our colonial trade is our mainstay, as we are all bound together in common interests. "Trade follows the flag" because the merchants of this country have an advantage over foreign merchants in the colonial trade—an advantage not

brought about by Government interference, but arising from the common interests of the English colonists and the home Englishmen. They have the same speech, the same constitution, the same religion, the same customs, and they naturally prefer trading with one another to doing business with outsiders.

“But this natural preference would be of no avail if **British goods were of dearer or poorer quality than foreign goods**; and in this lies the secret of England's commercial success. She has thrown off all the restraints and obstacles which formerly embarrassed her, and some of which still fetter other nations, and by allowing her industry the greatest possible freedom has been able to produce commodities of a quality and at a price to command the most profitable of foreign markets, and to out-distance all competitors in the foreign and colonial trades.”

155. This brings us to the last point, that a student must know what **fiscal restrictions and customs duties** are levied in various countries. He must know also, as a matter of history, what has been the effect on trade by the passing or repeal of various laws or treaties; for there is one law common to all life—“like causes *will* produce like results;” and by a comparison of the trade of various countries he will be able to judge whether the abolition or passing of laws, bounties, or treaties have been beneficial or the reverse.

Commerce is not a thing of chance; laws are as plainly written, and are as unalterable in their effects on commercial transactions, as in the operations of nature. To understand these laws and their working a student must *study* just as much as if he wished to become a botanist or other man of science, and this study will fit him, in its highest development, for the duties of a leading man of business, whether manufacturer, merchant—large or small—shipowner, or agent; for a consul, a president of a chamber of commerce, or for a statesman.

It will now be well to devote a few lines to subjects which have been incidentally mentioned but not elaborated.

Among "means of communication" as a facility to commerce we have referred to railway thoroughfares and ocean steam-lines, *accepting the position of commerce in our day.* Among the most advanced nations means of transport have grown and improved in strict accordance with the growth of commerce. Old "means" die out to make room for improved ways. Increased demand for easier transit and facilities of transport brought out latent genius, and now locomotives and railway trains running on steel railroads have superseded the slave, the porter, the camel and pack-horse, the caravan-road, and the highway with the waggons and coaches of bygone days.

Again, there are **disadvantages and hindrances to commerce** both natural and artificial. Among the latter are fiscal and customs duties, tariffs, protection bounties, strikes, monopolising syndicates, unscrupulous speculation, insurrections, and war; of these the student must have knowledge, and be able to draw from their effects in the past, lessons to guide him in the present and future.

The reader with a clear idea of commercial phenomena can apply the lessons brought out by them to any country he may be studying geographically or historically. He can, too, compare a country having modern means of transit with one still "in a past century," and draw therefrom many economic inferences respecting their material progress and well-being.

QUESTIONS.

Pars.

- 143.—1. Prove by examples that a commercial State virtually without seaports must still rely upon foreign and sea-borne traffic for its internal and its international trade.
- 143-145, 151.—2. Describe the river-systems of Germany and the natural gravitation of merchandise. Show also how national industries are modified by physical features.

- 145-148.—3. Classify the resources and the manufactures of Germany, and show how the arts of production and trade have been influenced by railways.
- 149, 150.—4. In what special manner does Germany show her commercial activity abroad? Name her chief home and foreign markets, her entrepôts, and her emporiums.
- 151, 152.—5. Contrast the industrial and commercial activity of South Germany with those of North Germany; give what reasons you can for the difference.
- 153-155.—6. What claims has commerce to be regarded as a science?

CHAPTER XX.

COMMERCIAL FACILITIES.

Par. 156. Standards of value as aids to exchange. The English pound sterling.—157. Foreign standards.—158. Weights and measures.—159. Scientific determination of standards.—160. The metric system.—161. Varieties and anomalies of standards.—162. Securities for commerce. The “forces.” Banking. Insurance.—163. Rapid correspondence. Post. Telegraph. Telephone.—164. Intelligence the chief factor of commercial advancement.

STANDARDS—*Value, Weights and Measures.*

156. **Value.**—The inconveniences of barter, in the simple exchange between a miner and a baker of the products of their labour, were adverted to in a former chapter. These inconveniences, extended to the whole class of productive labourers, would render the operations of exchange a source of endless perplexity; **indeed no system of exchange could be carried on.** In a very early stage of civilisation such perplexities were obviated by the use of some one commodity to serve as a common measure of the values of all other commodities, and hence taken as a *medium of exchange*. Whatever the standard or measure of value, it must possess certain essential properties to make it acceptable to the community at large for any and every other commodity; it must be some common object of desire, portable, durable, and not liable to loss of value by subdivision. *All cultivated races have found these conditions best fulfilled by the precious metals, gold and silver, which they have “coined” into “money.”*

The English standard coin is the pound sterling or sove-

reign. This gold coin is subdivided for convenience into parts represented by silver and copper coins of various values.

The **pound troy** contains 5760 grains, and is divided into twelve parts called ounces; the **pound avoirdupois** contains 7000 grains, and is divided into sixteen ounces. "Therefore it follows that one ounce avoirdupois is to one ounce troy as 437.5 is to 480, or nearly 73 to 80."

The **sovereign** is not pure gold, but alloyed with copper, eleven parts gold to one part copper. To obtain a perfectly accurate statement of the weight of a sovereign "we need but to know that forty pounds troy weight of gold of the Mint standard is divided into 1869 parts or sovereigns, which gives for the weight of a sovereign 5.136 dwts. troy."

Silver coinage is conducted in a similar way. "The Mint standard of fineness is thirty-seven fortieths of pure silver and three fortieths of copper; or, out of 12 ounces of silver of the Mint standard, 11 oz. 2 dwts. are pure silver and 18 dwts. are copper or alloy. One pound troy of silver of the Mint standard is coined into sixty-six shillings, or one ounce into five shillings and sixpence."

With regard to our old **copper coin** or penny, "one pound avoirdupois of copper was coined into twenty-three pence." The bronze at present used is coined into forty-four pence to the pound-weight.

Besides thoroughly knowing these English weights, measures, and currencies, the student should know those of other countries, as he is often called upon as a merchant to adjust his interchange on foreign weights and measures and "settle up" on foreign currency exchange.

157. All over the United Kingdom one sovereign would be exchanged freely for another sovereign, for twenty shillings, or for two hundred and forty pence. In France a different coin and of a different value, called a "**franc**," is the standard, and for an *English sovereign* about *twenty-five francs* are obtained in exchange.

Austro-Hungary, standard coin the *florin*, *silver*, nominal value one-tenth of a £ sterling, real value one-twelfth of a £.

Belgium, the franc, *silver*, value $25.22\frac{1}{2}$ to the £ sterling.

Denmark, the krone, *silver*, about 18 to the £ sterling.

France, the franc, *silver*, $25.22\frac{1}{2}$ to the £ sterling.

Germany, the mark, *silver*, 20.43 to the £ sterling. Gold is the standard of value, the smallest gold coin being a five-mark piece.

Greece, the drachma, *silver*, $25.22\frac{1}{2}$ to the £ sterling intrinsic value.

Italy, the lira, *silver*, $25.22\frac{1}{2}$ to the £ sterling.

Holland, the guilder, *silver*, 12 to the £ sterling. *Silver is the general circulating medium*, but there is an unrestricted coinage of ten-guilder pieces in gold.

Portugal, the milreis, *silver*, $4\frac{1}{2}$ to the £ sterling.

Roumania, the lei, *silver*, $25.22\frac{1}{2}$ to the £ sterling.

Russia, the rouble, *silver*, must contain 17.9961 grammes, or 86.8 per cent. of its weight of fine silver. It is equal to 3s. 2.054d. The gold coins—*half-imperials*—weigh 6.544041 grammes, and contain 5.998704 grammes of fine gold. A paper currency is very general.

Finland, the marc, *silver*, $25.22\frac{1}{2}$ to the £ sterling.

Servia, the dinar, *silver*, $25.22\frac{1}{2}$ to the £ sterling.

Spain, the peseta, *silver*, $25.22\frac{1}{2}$ to the £ sterling.

Sweden and Norway, the krona, *silver*, about 18 to the £ sterling.

Switzerland, the franc, *silver*, $25.22\frac{1}{2}$ to the £ sterling.

Turkey, the piastre, *gold*, is worth 2.16d. There are 100 piastres to the gold medjidié, or Turkish lira, valued at 18s. 0.064d.

Argentine Confederation, the dollar, *silver*, about 5 to the £ sterling, with a depreciated paper currency.

Bolivia, the peso or dollar, *silver*, value about 3s. 4d. The gold ounce is nominally equal to $17\frac{1}{2}$ silver pesos.

Brazil, the milreis, *silver*. The English £ sterling is a legal tender at 8889 reis each since 1857. At the end of 1886 the English sovereign was worth 10.971 milreis.

Canada, the dollar, *silver*, $4.86\frac{2}{3}$ to the £ sterling.

Chili, the peso, *silver*, value 3s. 4d.

Colombia, the peso, *silver*, value 3s. 4d.

Ecuador, the sucre, *silver*, equal to 2s. 7.67d. English.

Mexico, the peso, *silver*, value 3s. 4d.

Paraguay, the peso or dollar, *silver*, equal to about three-twentieths of £ sterling.

Peru, the sole, *silver*, value 3s. 4d.

United States, the dollar, *silver* and *gold*, 4.866 to the £ sterling.

Venezuela, the bolivar, *silver*, 25.22½ to the £ sterling.

Cape Colony, sterling, as in England.

Egypt, the piastre, *silver*, 97.5 to the £ sterling.

Liberia, chiefly sterling, as in England.

Morocco, the mitkal, equal to 3.08d.; but French and Spanish money are also current.

China, the tael, 3.78 to the £ sterling. There are no national gold and silver coins; foreign money is usually looked upon only as bullion and taken by weight.

India, the rupee, *silver*, a fluctuating value, 1s. 5d. to 1s. 7d., with a nominal value of 2s.

Japan, the yen, *gold*, value 3s. 8d.

Persia, the kran, *silver*, the value being about 34½ to the £ sterling.

Siam, the tical, *silver*, weighing 236 grains troy, and of a value of about 2s. 1d. English.

Australasia, sterling, as in England.

Many nations adopt what is termed the decimal coinage; that is, the standard coin divided and subdivided by tenths. This course admits of perfect reciprocity in the currency of the countries adopting it, and gives the monetary unit of each, as well as its multiples or fractions in gold or silver, *the same course and value.*

It would be an undoubted advantage to the commercial world were this decimal coinage universal; say, the English sovereign, valued at one hundred divisions, and so taken as value in exchange *all over the world.* This change would

necessitate an alteration in all our subsidiary coins except the half-sovereign, which would be fifty hundredths of the pound sterling. The advantage, however, would be so wide and lasting that the vast magnitude of the operation alone deters us from its accomplishment.

Money, however, is not wealth, except so far as the metal of which it consists is a product of labour. Were all the money in existence to disappear in an hour, the world would be as rich as before, saving only in the lack of the one commodity—gold. *The function of money is to smooth the course of interchange*, much as oil eases the working of machinery, and bears about the same proportion to the whole sum of the world's wealth as the oil bears to the engine.

By the aid of money a thousand commercial exchanges may be completed in less time and with less labour than the butcher would consume in exchanging the carcass of his slaughtered ox for the necessaries he needed, by the simple, or rather much more complicated, plan of barter.

Money, as a measure of value, and consequent medium of exchange, is an aid with which commerce could not dispense. Coins are representative equivalents.

158. With regard to weights and measures, unless some "standard" was arrived at whereby transactions could be carried on from a distance without actually seeing what was being bought and sold, commerce would die a natural death. Further, if the purchaser did not know by some common usage what was the weight, the dimension, or the capacity of what he sought to obtain, either he would get what he did not want, or else open the door for fraud to the seller. Hence, some standards of weights and measures became necessary.

We have already shown how our English standard of one pound weight and one yard measure are determined with accuracy; but the weights and measures of all countries are not the same. Our competitors beat us in preparing for *these* differences. *They* will sell on the weights and measures of

the *buying* country, while *England* very generally will only sell on her own standards.

Increased international trade tends to bring all weights and measures to a uniform standard, which would be an additional "aid to commerce." Many countries have adopted the **metrical or decimal system**, and it is only reasonable to predict that necessity will occasion the *different* systems to give place to one *universal* standard.

159. Further, as to our own weights and measures, a schoolboy learns that three feet or thirty-six inches make one yard, or sixteen ounces one pound weight avoirdupois; but "commercial men, whilst understanding that the accurate determination of a standard of weights and measures is entrusted to men of science, are perhaps little aware what the task involves. The size and weight of the earth must be first ascertained. Its dimensions have been determined by the exact measurement of a meridional arc of the heavens corresponding to a given distance between two points on its surface; and by the determination of the difference in the length of a pendulum vibrating seconds in different latitudes. The mean density has been ascertained to be, roundly, five and a half times that of distilled water, by calculating the amount of attraction exerted by a mountain of known dimensions upon the bob of a plumb-line, as shown in the amount of deviation of the latter from the perpendicular.

"The length of a pendulum vibrating seconds in the latitude of London was found by Captain Kater to be 39'.13929, when oscillating in vacuo, at the temperature of 62° Fahr., and reduced to the level of the sea. The weight of a cubic inch of distilled water at 62° Fahr., the height of the barometer being thirty inches, was also determined in parts of an imperial troy pound.

"From these data the standard of length called a yard, and the standard brass weight of one pound 'troy,' are fixed with precision.

"Uniformity of principle prevails, but uniformity of practice

remains to be asked and prepared for, then to be adopted and looked forward to as one of the triumphs of industrial progress, affording great additional facility to the intercourse between nations. Less labour will be required to accomplish the same results, or the same amount of labour will produce a greater quantity of wealth."

160. The "metrical system" was first started as international in 1865, when Belgium, France, Italy, and Switzerland, "considering the mutual advantages accruing to neighbouring nations from the adoption of a uniform standard of coins, weights, and measures, entered into a convention by which they agreed upon the French decimal system, establishing perfect reciprocity in the currency, weights, and measures between the countries.

"This system is based upon the length of a fourth part of a terrestrial meridian. The ten-millionth part of this arc was chosen as the unit of measures of length, and called a *mètre*, equal to 39 37079 inches English. The cube of the tenth part of a *mètre* was adopted as the unit of capacity, and denominated a *litre*, equal to 61.02705 inches, or 1.76077 pints English. The weight of a litre of distilled water at its greatest density was called a *kilogramme*, of which the one-thousandth part, or *gramme*, was adopted as the unit of weight, equal to 15.43235 grains English. The multiples of these, proceeding in decimal progression, were distinguished by the employment of the Greek prefixes, *deca*, *hecto*, *kilo*, and *myria*, and the subdivision by the Latin prefixes, *deci*, *centi*, and *milli*." ¹

161. The commercial terms and standards used in the transport of merchandise are very varied. England ships by the *ton* of 2240 lbs. *weight* of coals and heavy goods; and as a ton of coals is supposed to occupy a space covering forty cubic feet, this cubic capacity is taken as the standard for a ton of goods when shipped by *measurement* instead of by *weight*.

¹ Blackie.

Timber is shipped and paid for by the "*load*," which is fifty cubic feet, or by the "*standard*," which is 165 cubic feet.

Wheat and cereals generally are usually shipped "*in bulk*," that is, loose, not packed, and are freighted by the *bushel* or *quarter*—one quarter being equal to eight bushels; for ordinary rough calculation a steamship capable of carrying 1000 tons of "dead weight," that is, 1000 tons of 20 cwts., will lift about 5000 quarters of wheat.

Coals from north English ports are frequently shipped by the "*keel*," one keel being equal to $21\frac{1}{2}$ tons.

France, Belgium, and Italy ship by the *metrical system*, 1015 kilogrammes being equal to one ton English, and 2 hectolitres and 90 litres 1 quarter, English.

Austria, shipping by Trieste, uses $3\frac{1}{2}$ *stajas*, as being equal to 1 quarter. **Denmark** uses the "*last*," equal to 45.8 bushels, **Germany**, too, uses a "*last*," but of different value, 6 *scheffels* making 1 *last*, and $5\frac{1}{4}$ *scheffels* nearly being equal to 1 quarter.

Holland uses a "*last*" equal to $10\frac{1}{2}$ quarters; the **Galatz** (Roumanian) *chulo* equals 1.43 quarters, while that of **Ibrail** equals 2.32 quarters. **Russia** favours the "*chetwert*," 100 *chetwerts* being equal to 72.15 quarters; while **Egypt** uses the "*ardeb*," 100 *ardebs* of wheat being equal to 63 quarters.

Our colonies, generally, and the United States use English weights and measures,—although for *scientific purposes* the *metrical system* is resorted to,—except that the United States and Canada declare the hundredweight to be 100 lbs. instead of 112, and the ton 2000 instead of 2240 lbs.

Japan and Hong-Kong use the "*picul*," **India** the "*maund*," **Peru, Mexico, Chili, and Brazil** the "*quintal*" and "*arroba*," and **Sicily** the "*salma*."

This glimpse of the variety of standards will show what a great "aid to commerce" a universal system of weights and measures would be.

162. In a previous chapter we have shown the necessity of our **navy** for keeping open our ocean highways; on shore we

have our soldiers, volunteers, and our police. The knowledge that our material belongings are being carefully watched over and protected gives confidence, and where there is confidence commerce flourishes; hence the services of our army, navy, volunteer forces, and police are "aids to commerce."

Security is also given to our goods in *warehouses* and our money in *banks*, therefore we may class banking, which originated in Italy, an "aid to commerce," for by means of banks in various parts of the world it is possible to settle cash differences, as between merchant and merchant, without the tedium and risk of sending "bullion," the bankers adjusting their *total* transactions simply by the payment of differences.

Insurance is another aid to commerce, and a security from loss to our goods. Let us illustrate its benefit. If a merchant possessed of a certain amount of capital, ship goods to the full value of this capital, and during the voyage the vessel should be lost, he would be a ruined man, for he had embarked all his means in the venture.

Our external trade being all by sea, the full national risk must be very great. The felt want for some remedy—some aid or resource—to cover or minimise these risks common to many merchants, produced a system of insurance by which a number of individuals undertake to divide the risk of the *one merchant* among themselves, on receipt of a certain payment called a "premium," the amount of the "premium" varying with the nature of the risk run. Thus, if a merchant ships goods to the value of £1000, instead of his running this liability alone, by the payment of his premium ten men undertake to reimburse him £100 each, or a hundred men £10 each, in the event of the loss of the goods,—a great "aid to commerce."

This system is adopted in all countries where any real progress has been made in commercial matters, and it has the further great advantage of keeping a check upon and regulating the seaworthiness of vessels.

163. Hardly next to facilities of transport as aids to com-

merce stand the means of rapid correspondence, which give to these agencies their activity. Our postal service is a marvel for celerity, safety, and cheapness, compared with previous periods. The commercial necessity of rapid correspondence acted as an urgent incentive to improved means of transit, and these still further expedited correspondence. Each is ancillary to the other, and may be comprised in our means of communication. "Time is money," for the saving of time in making known and supplying our wants means giving the time saved to further production, with its attendant profits.

Even the perfection of the postal system left commercial wants unsatisfied. The desire obtained among merchants to be put in touch with their correspondents at a distance at any hour. Science supplied the want by the telegraph and telephone, the first flashing silent messages to and fro along the electric wire; the second conveying the speech of speakers many miles apart. So soon as the power of stored electricity was known, commerce demanded possession and *use* of the telegraphic wires and cables.

Land wires and submarine cables were laid, and now London knows what New York or Melbourne, on the other side of the globe, are doing almost in the commission of the act. Do we not see this in our "daily papers?" We find on our breakfast-table the doings of the whole world to within a few hours.

What a marvel of progress! No longer need there be fears of scarcity; the telegraph commands every corner of the commercial world, and famines, floods, wars or rumours of wars, accidents and losses, good harvests and bad harvests, are known in every city as soon almost as they are known on the spot.

The telephone, too, is being largely adopted in all commercial countries, and it seems no idle dream to fancy the leading merchant or the statesman carrying on extensive and world-wide operations,—involving the fortunes of multitudes,—without rising from his chair in his own office.

Such a comprehensive result is conducive to the real ad-

vancement of commercial life, reducing hurry to tranquillity, while multiplying indefinitely commercial transactions.

164. A final "aid to commerce" consists of special knowledge of the nature and operation of the factors, all and sundry, of commercial progress, leading to the gradual utilisation, in lieu of human labour, of the wind, water, steam, and the electric fluid as productive powers. Such special knowledge left to be acquired in the active field of industrial and commercial life, where it ought rather to be put into practice, is gained slowly, laboriously, and at a loss of productive energy. Experience teaches only within its own narrow field. **Intelligence advances every day to the rank of chief factor of production.** One cannot work successfully at what he does not understand; to learn, therefore, is the first thing, and then to practise.

The reversal of the relative rank of handicraft and intelligence has placed industrial and commercial States more nearly on a par. Cheap and rapid transport of raw material has rendered the natural resources of richly or poorly endowed countries of less economic importance to the productive classes. England, resting upon her physical advantages, the unapproached excellence of her manufactures and prosperity of her trade, has been, in appearance, unobservant of the signs of the times. Other States have been prompt to take advantage of this apparent supineness, and have stolen a march upon England, with the view of beating her in her own markets. *The well-being of the world is best advanced when the best men win.* America, before all, and the Continental States have devised thorough systems of technical, industrial, and commercial education, fitting their youth for any rank in the army of producers, and though they cannot all be officers and leaders, their productive power "in the ranks" is immeasurably improved by their fitness to command. The outcome of this philosophical course is observed in the enterprise of the Germans, who, as successful men of business, crowd every busy hive of production.

England does not readily admit that she must yield in intellect to any other State. There are not wanting indications that her apathy is but the brooding of thought, the gestation of intellectual activity, to compare with the material activity of the past. This economic *renaissance*, this awakening to higher industrial life, is embodied in **technical and commercial colleges** now rising in the capital and in all our important manufacturing towns, and of which the Colonial Institute promises to be the active centre. Little prescience is needed to foretell that legislation is, in the near future, to supplement the work of primary education with Secondary or Continuation Schools, *whose effects will be to elevate the intellectual factor of production*, and to introduce such new industrial conditions that husbandry, manufactures, and trade will rebound from the long depression of transitional years, and the twentieth century will open upon a new commercial period, bright with auguries of promise.

The merchant should be Bacon's "full man." He should possess a knowledge of the natural history of raw produce, the technical history of its transformations by labour and skill, the commercial history of the great trading States in all ages, and he should be able to trace the logical sequence of causation in the growth or decline of commercial greatness. The commercial man, not the warrior, is the civiliser of his race, the hero-benefactor, not the mere destroyer.

The Christian missionary Livingstone trusted to commerce to illumine the Dark Continent, and the illustrious Stanley depends upon the same civilising influence. Endowed with his store of special knowledge, the merchant sees in the product of a newly-trodden clime a latent source of necessities, comforts, or luxuries to add to the world's well-being; intercourse springs up, and interchange develops between distant peoples, blessing both with richer abundance.

Knowledge of every kind is of advantage in business; but knowledge has a deeper and more lasting effect, because it can only be gained by application as a habit. Man is "a bundle

of habits," and these affect not only his own life, but are more far-reaching,—moulding posterity.

The indolence and sloth of natives of tropical countries will never in our time allow of commercial intercourse in its full sense; some generations must pass away before progress is so marked as to admit of this. Old forms of life must die out and make room for more advanced types. Long years of voluptuousness and idleness leave the canker-worm of degeneracy to work in after generations: witness the ruined sites of ancient grandeur, and the altered aspect of the people of those once prosperous lands.

Industry, intelligence, skill, and economy combine to make the successful man of business; and the successful man, endowed with these gifts, is a civiliser of the world in our day.

QUESTIONS.

Pars.

- 156.—1. What are the properties that render the precious or royal metals universally acceptable as a "medium of exchange"? Explain the English system of coinage.
- 157.—2. Describe the currencies of the representative commercial States of Europe, Asia, and America.
- 158 and 159.—3. Why are weights and measures essential to interchange? How are the English pound-weight and the yard determined, and other measures derived therefrom?
- 160 and 161.—4. In what respects do the Continental standards of weights, measures, and coins differ from the English standards?
- 162 and 163.—5. Describe the chief aids to commerce in relation to "security" and "correspondence."
- 164.—6. How do intelligence and integrity perform the parts of chief factors in industrial and commercial advancement?

CHAPTER XXI.

STUDIES OF THE UNITED KINGDOM—A KEY TO OUR HOME TRADE.

Par. 165. Physical advantages of the British Isles. Coast-line and harbours.—166. Amenities of British latitudes. Freedom from climatic extremes.—167. Means of communication. Railways and waterways.—168. National industries determined by physical features. Gravitation of products seawards.—169. English ports and manufacturing centres.—170. **Wales**—physical, industrial, and commercial characteristics.—171. **Scotland**—Highlands and Lowlands.—172. Natural aspects in relation to industrial and commercial activity.—173. Ports and centres of industry. Railway communication.—174. **Ireland**—distinctive features.—175. Commercial and industrial centres. Canals.

165. Were a student asked to define a country placed in the very best economic position for commerce, both internal and external, he would answer: "A land of moderate area; rich in earth-gifts, with no stupendous physical features to be overcome, situated among civilised nations; an island, so as to obtain a well-defined frontier, surrounded with waters of such a temperature as to keep the harbours and coasts always open; natural harbours and estuaries, with deep water; rivers of good volume, running well inshore and of moderate velocity, so placed as to 'catch' all mercantile movements; peopled by an active population, and unfettered by fiscal restrictions."

The British Islands fulfil these conditions. Situated in the temperate zone, separated by only a few miles of sea from the western shores of the continent of Europe, of pyramidal form, whose broad base is analogous to the opposite coasts of France; favoured with a climate mild in comparison to the latitude;

with harbours and estuaries always "open," and rivers capable of floating vessels of large tonnage a considerable distance inland—an advantage denied to most Continental countries; an undulating rather than a mountainous country, and peopled by an active and vigorous business people. Apparently, then, nothing is omitted to enhance the physical position of Great Britain as a commercial and maritime country.

Study the coast-line. The western shores of Scotland are deeply indented with natural harbours, formed by rocky lochs or firths analogous to the Norwegian fiords; while Loch Linnhe and the Firth of Clyde penetrate inland and form sheltered havens. England and Wales, on the same coast, are not so rock-bound, neither are the shores so deeply indented; but the Solway Firth, Morecambe Bay, the Mersey, Milford Haven, and the Bristol Channel give good harbours, although in some cases the sand is washed shorewards, and forms bars across the harbour's mouth, which necessitates dredging.

On the English south coast fine natural harbours, with deep water, form at Falmouth, Plymouth, Dartmouth, and Southampton; while on the east coast, with its flat shore, the estuaries run far inland, again impeded by sandbanks. Among these estuaries we notice the Thames, Harwich, the Wash, the Humber, the Tees, Wear, and Tyne, the Firth of Forth, and the Firth of Tay. Farther north the coast-line is more rugged, and we get the Firths of Moray and Dornoch.

Ireland exhibits many natural land-locked harbours, the most important being Donegal Bay, Clew Bay, Galway Bay, the Shannon estuary, Dingle Bay, Tralee, Kenmare, and Bantry Bays, Cork harbour, Waterford harbour, Wexford Haven, Dublin and Dundalk Bays, Belfast Lough, and Lough Foyle.

The coasts facing the tempestuous western ocean are throughout rugged and well worn by the waves, giving natural havens or places of refuge with deep water, both in Ireland and Great Britain; while the sheltered sea of St. George's Channel favours accumulations of sand, and the land on either side is not so indented. The low-lying shores of the east coast of

England, again, from their geological formation, lead us to surmise them to be a reappearance of part of the great European plain which extends inland to the Pennine range, and of which the German Ocean is a shallow depression. These shores are flat, and require artificial defences against the accumulation of sand.

The ports on the east coast have direct access to the Baltic and all North Europe; on the south, England commands "the Channel," the waterway for every vessel bound to and from the northern ports of Europe, Great Britain, and the west, south, and east; while the harbours on the west coast lead out to the Atlantic Ocean in direct course for America, separated only by a passage traversed in less than a week.

We have now to consider the general physical features of our islands, so as to be able to draw conclusions as to resources, occupation, and commerce generally. These external physical features are as unalterable as the latitude and longitude; but, quite as much as the internal natural resources, they have contributed to the formation of that character which has placed our insular race at the head of the productive activity of the world.

How little latitude, in itself, affects the material progress of the United Kingdom may be learned by a consideration of the position of the commercial capitals of England and Scotland, relative to other places on the same parallel.

166. London, the pivot not only of England's commerce, but that of the world at large, is situated in latitude $51\frac{1}{2}^{\circ}$ N., which approximately corresponds with the latitude of places so widely different in every physical feature as Antwerp, Elberfeld, Leipzig, Warsaw, Saratov, Semipolatinsk, Lake Baikal, Cape Lapatka, Vancouver Island, Lake Winnipeg, and the Straits of Belle-Isle. Glasgow is placed four and a half degrees farther north, and approximates the parallel of Copenhagen, Moscow, Ufa, Omsk, Udsch, Kamtschatka, Severn on Hudson's Bay, and Nain in Labrador.

The girdle of land round the globe between these two

parallels, 51° and 56° , is, for the most part, inaccessible for a lengthened period of the year, owing to the severity of the winter. Why, then, is England so peculiarly favoured? The causes of the amenities we enjoy have been already indicated.

First, our islands receive the direct influence of the Gulf Stream, which runs across the Atlantic in a north-easterly direction from the heated waters of the Gulf of Mexico. This warm current keeps our harbours and coasts "open" all the year round, even as far north as the Hebrides and the Shetlands, and produces a similar effect on other countries, like Norway, in the "set" of the stream.

Second, England lies near to the warm western shore of an extensive continent, and the majority of her harbours are placed in sheltered seas.

Third, the prevalent winds throughout the year blow from the west and south-west, off the warm waters of the Atlantic; they come charged with moisture; and while they bring humidity, they avert the climatic extremes of currents blowing over the European continent.

Fourth, an insular climate, like that of the United Kingdom, partakes of the equable character of the ocean by which it is surrounded, and which neither absorbs nor radiates heat to the same extreme as do wide expanses of land.

This freedom from climatic extremes, together with abundant but not excessive moisture, affects the western coasts more than the eastern, causing marked distinctions, both of temperature and of agricultural produce. The physical conditions of our islands and the fertility of soil, combined with the intelligent energy of the people, are reflected in the high state of cultivation which makes the country a garden, and the perfection to which the domesticated animals have been raised. The varied produce of temperate climes matures abundantly, and the cattle are the finest of their kind.

167. England is joined from end to end by railways, the chief river-basins connect by canals, and great facility for internal commerce obtains. On the position of the river system

of a country, the length of course, the speed and volume of the stream, depend easy distribution, and by so much the material well-being of a country. Agriculture is only possible where there is well-watered land; large towns and ports spring up on river-banks; industries require a large supply of water, either as motive-power or in their operations; internal commerce depends largely on water communication; and lastly, external commerce is greatly assisted by rivers and waterway facilities.

Man's ingenuity in breaking down barriers, or through natural ones increasing the areas of distribution, by the introduction of "means of communication," is nowhere better exemplified than in England.

England is depicted on the map as an irregular triangle, having a natural land barrier on the north, separating her from Scotland; an irregular natural boundary on the west, dividing her from Wales; and on all other sides the sea.

The general aspect of the country is of hill and dale, valley and plain; there are no natural barriers, such as the Alps of Switzerland; consequently we find that man has overridden obstacles and merged one area into another. Nevertheless, the natural areas exist, and they gravitate to the natural outlet, the seaport.

Looking at the map of England generally, we observe that *very little land lies more than 500 feet above the sea-level*, and the country elevated above 1000 feet is restricted to the Pennine range and its spurs; the Yorkshire moors, Dartmoor, and Exmoor in Devonshire, and an isolated point—Brown Willy—in Cornwall.

This comparatively level aspect of England has a marked effect upon the course of the rivers. Notice, the Pennine chain runs from the extreme north to Derbyshire in a comparatively straight line, considerably nearer the western than the eastern coast. South of Derby, allowing for the break in continuity for the passage of the river Trent, this chain connects with a range of uplands extending from the Humber

in a south-westerly direction to Cornwall, and embraces the Lincolnshire heights, the Cotswolds, Mendips, and Devonshire hills.

Thus, the areas embraced by the waterways of the eastern slopes are much larger than those contained by the streams on the opposite or western side. The rivers on the east, having farther to run and coursing through plains, acquire the position of navigable rivers; while those on the west more resemble mountain streams, and are only available, as far as commercial navigation is concerned, for a short distance. The Ribble and Mersey on the one hand, the Humber, Trent, and Thames on the other, are examples.

The only river of consequence having its embouchure on the west is the Severn, but this runs in a peculiar basin of its own. Rising on the eastern slope of the Welsh mountains, instead of breaking through direct to the sea on the east, it turns south, and watering an exceedingly industrial region, flows at last westwards, and finds an outlet in the Bristol Channel.

168. From our previous chapters, we should expect these hill and mountain ranges to exhibit, besides the natural gravitation, the localities of our great mineral wealth. The elevation of the Pennine range and continuing mountains, with the Yorkshire moors, *do* embrace all the *mining* centres of England.

In the north, between the Pennines and the western sea, extends a plain, called the Cheshire plain, the scene of *agricultural* and other industries. Farther south, and separated from this by the uplands, having their culminating point in the Wrekin, extends the Severn plain, lying between the central English hills and the Welsh mountains.

On the eastern side of the "backbone" of England lie all the extensive plains stretching from the mountains to the eastern sea. In the north the Northumberland plain, bounded by the highlands of North Yorkshire and Durham. Farther south lie the great plain of York and the central plain or

Trent valley, bounded by the hills running from the Humber to the Cotswolds.

To the east of the dividing ridge extend very rich alluvial agricultural districts, bounded on the west by this range, on the east by the East Anglian heights and the Chilterns, on the south by the highlands which join the Chilterns and Cotswolds, and on the north by the sea.

In the south of England a well-defined lateral range runs from Cornwall to Dover, which includes the North Downs; lying in the space formed by the East Anglian heights, the Chilterns, and the North Downs, are the rich grain districts of the eastern counties and the valley of the Thames. Between the North and South Downs,—duplicate lateral ranges,—extend the hop country and “Garden of England;” while between the South Downs and the sea lies the plain of Southampton, with alternate wheat-fields and pastures.

These physical features of England determine the localities of the grazing counties, which enjoy the warmth and moisture of the west, the corn counties, and the mining districts; and it will be seen that, generally speaking, the whole country slopes from the rugged heights of the west eastwards to the coast-land barely raised above the level of the sea.

The range of high lands running from Lincolnshire to the Cotswolds distinctly divides English industrial life, and forms the boundary between the manufacturing sites, **which do not pass this barrier at any point**, from the purely agricultural districts. Hence we find all the manufacturing sites, with their large towns, cities, and concentrated population, lying to the westward; while on the opposite slope lie the agricultural districts, with their market towns, villages, and scattered population.

Note that each district has its own natural gravitation seawards. The Cheshire plain gravitates to the Mersey and Liverpool, the Severn plain to the ports at the mouth of that river, the Northumberland plain to the Tyne and Wear, the York and central plains to the Humber, the alluvial lands of the

Fen country to the Wash and Witham, the eastern counties and Thames valley to London, the Weald to the Kentish coast, and the southern lands to the English Channel seaports.

Our English industries are placed just where they are most easily carried on. In olden days they were situated on the Tertiary strata of south-east England among the forests,—but since the discovery of coal and iron they have shifted to rocks of older or Palæozoic date; our ironworks, steelworks, and smelting-works are in towns situated in the Cleveland districts, on the central coalfields and the Welsh deposits; our textile factories are near coalfields, among streams running amid the spurs of the lower Pennine range, within easy reach of the sea both for distribution and redistribution, as is most convenient in the Midlands between the Humber and the Mersey.

169. England and Wales have their political centre and capital in London, which is also the commercial capital. **The principal ports** are London and Liverpool; **secondary**, Hull, Bristol, and Southampton; **next**, Newcastle, Sunderland, Newport, Cardiff, Swansea. **Smaller ports** on the east coast are Warkworth, the Hartlepoons, Middlesbro', Grimsby, Boston, Lynn, Ipswich, and Harwich; on the south coast, Dover, Folkestone, Newhaven, Littlehampton, Portsmouth, Dartmouth, Weymouth, Plymouth, Falmouth, and Penzance; on the west coast, Hayle, Porthcawl, Port Talbot, Briton Ferry, Neath, Llanelly, Barrow, Whitehaven, Workington, and Maryport.

Many centres for special manufactures have arisen; among others, **cotton** centres at Manchester and neighbourhood; **woollens**, Leeds (**cloth**), Bradford (**worsted**), Dewsbury (**clothing**), Batley and neighbourhood (**shoddy**), Stroud valley (**broadcloth**), Bradford in Wiltshire and neighbourhood (**cloth**), Newtown and Welshpool (**flannels**); **silk**, Macclesfield, Derby, Coventry, Spitalfields; **flax**, Leeds, Barnsley; **jute**, Barrow, London; **lace**, Nottingham; **hosiery**, Derby, Leicester; **straw-plaiting**, Luton, Dunstable; **boots**, Northampton;

gloves, Yeovil, Worcester, Woodstock; ironwork and hardware, Birmingham; cutlery, Sheffield; needles, Redditch; steel-manufacturing, Middlesbro'-on-Tees; agricultural implements, Lincoln, Gainsborough, Grantham, Ipswich; ship-building, East Coast ports, Southampton, Barrow; nails, Dudley and neighbourhood; glass, Stourbridge, St. Helens, Newcastle, &c.; potteries, North Staffordshire; fine pottery, Worcester, Lambeth; chemicals, Newcastle, St. Helens, Swansea; candles, London; paper, Kent. Agricultural centres are the market towns of the eastern and south-eastern counties in chief. Railway distributing centres are so numerous that reference must be made to a railway map of England.

WALES.

170. The Principality of Wales lies to west of England, and is bordered by the Irish Sea and Bristol Channel; its land frontier is an irregular one, and forms the western slope of the Severn plain. The country consists of a mass of mountain heights, covered with short scanty herbage, but containing in many places great mineral resources, while there is a border of fairly fertile land between the sea and the mountains.

One striking feature of the climate of England and Wales is that the isotherms, or lines of equal temperature, are so deflected that they virtually run from north to south instead of from east to west. Hence many places lying north on the west coast have a warmer temperature than places lying farther south on the east.

The climate of Wales is excessively moist, and the chief agricultural industry, *from the nature of the soil*, is grazing on the mountains. The portions of this country most suitable for tillage and ordinary agricultural pursuits are especially the vales of Conway and of Clwyd in the north, the valleys of the Wye and Severn in the centre and east, the Dovey and Teify in the west, the Towy in the south-west, and the Glamorgan flats in the south.

Wales has an area of 7397 square miles, nine-tenths of the surface being mountainous. Like Northern Scotland it is a poor country for agriculture; the **rocks, being of primary origin, fail to yield a good soil.** Agricultural activity is therefore confined to those tracts where the mountain streams have left their **alluvial deposits**, and so enriched the ground. The mineral resources of the country, however, are so vast and important that Wales plays a conspicuous part in the commercial activity of Great Britain, and considerable industrial activity occurs on the coal and iron fields.

The coasts are open to the western seas and to Southern and Western Europe; but Wales being as yet without any real import town, the whole business is practically that of exporting the resources of the principality.

The natural gravitation of North Wales is by the valleys to the sea and **Liverpool**; there are no harbours or seaports on this coast, a few insignificant ports only, on the Menai Straits, for small sailing-vessels, such as **Port Dinorwic** and **Carnarvon**, where the slates from the neighbouring quarries are loaded. **Liverpool** is the great distributing centre for all this northern area.

On the west coast a similar state of things obtains—a few sandy harbours, **Tremadoc**, **Barmouth**, and **Cardigan**, but no real commerce. The geological strata forbid it. The gravitation here is “against the stream” to the Severn valley, and thence to **Liverpool**; otherwise merchandise filters to the **South Wales coast**, where a totally different aspect is presented.

Here a range of ports extends from the outermost rocks of **Pembroke** to **Monmouthshire**, and includes some of the most important out ports of Great Britain, namely, **Cardiff** and **Swansea**; with **Llanelly** and several minor places, such as **Porthcawl**, **Briton Ferry**, **Port Talbot**, and **Neath**.

Cardiff and **Barry**—a new port near **Cardiff**—are striving to reach the position of “in-and-out” ports, and import docks are being built, so that vessels may be able to discharge their cargoes and load again with only a change of dock instead of port.

Milford Haven, the finest harbour in Great Britain, and the terminus of the Great Western Railway, does not yet rank as a "port," either in or out. Its chief trade is in connection with the trans-Channel service between England and Waterford, the reason being that as a distributing centre *it is far removed from industrial circles*; but transit is now so easy and speedy as to lend hopes that it may yet rise to importance; for its convenience as facing the open ocean, and obviating the necessity of navigating the Irish Channel, cannot be denied, and any shortening of distance or diminution of risk is eagerly welcomed by the mercantile marine.

As Wales is *at present* without a true general import harbour, she is dependent upon England for her supplies. Her manufactures concentrate only in two districts; the chief in the south, consisting of iron work in all its phases, the making of patent fuel on the iron and coal beds of Glamorganshire, and the copper-smelting and chemical works of Swansea. The other consists of the woollen manufactures of Montgomery, at Welshpool and Newtown, situated on the river Severn, whence they draw their water-supply; obtaining their requirements of raw materials—wool—chiefly from the Welsh sheep pastured on the adjoining mountains, from the neighbouring grazing counties of England, or from the English emporiums.

Flint and Denbigh have smaller circles of mining industries gravitating to the Dee and Mersey.

The southern ranges of hills shut off the industrial parts, with concentration of people in the towns from scattered districts purely agricultural.

The lateral south hills which run from Pembroke parallel to the sea have valleys trending northwards at intervals, and in these valleys the people congregate. Here the mining industry is most actively carried on, the gravitation being down the valley to the port on the sea-coast, which nowhere lies far distant.

South Wales draws some of its supplies from the English

emporium of **Bristol**. Both Newport and Cardiff act as emporiums for Bristol goods that come over into Wales,—small centres supplying small circles.

This district also draws supplies from **Liverpool** by steamers calling at Milford, Llanelly, and Bristol; an instance of an *important centre*, Liverpool, supplying a smaller centre, Bristol, as emporium for Cardiff, which in its turn serves the outlying hamlets. Bristol and Swansea draw goods also from London.

North and Mid Wales are dependent upon **Liverpool** principally, assisted by the produce of the English western counties.

The South Wales ports send out the produce and manufactures of their own immediate neighbourhood, and draw from Bristol goods for export. They attract, likewise, merchandise from the potteries and midland counties of England.

Difficulties of “cross country” transit, and the want of through arrangements or co-operation among the railway companies, prevent these ports from ranking as first-class export towns of general cargoes.

SCOTLAND.

171. **Scotland**, the northern part of Great Britain, belongs to the zone of northern grains, and is bounded by the sea, excepting on the south where the narrow neck of land crossed by the Cheviot Hills runs from the North Sea to the Irish Channel.

The country is divided into two distinct regions, the Strathmore valley being a well-defined line between the two—(1) the **Highlands**, lying to the north of the valley, and (2) the **Lowlands**, on the south, extending to the Cheviots. These Lowlands are more fertile, and contain the chief seats of industry. They may be further subdivided into the **Lowland hill country** and **Lowland plain**.

172. As in England, the rivers on the west of the Highlands are short and rapid, mountain torrents running directly into

the sea, while on the east the streams run through longer valleys and are joined by many tributaries. Before they reach the Lowlands, which extend to the sea, their volume is much increased, and they issue in broad estuaries and good harbours.

The climate is generally moist.

The watercourses of the Lowlands are dissimilar to those of the Highlands; the mountains, too, are less lofty, abounding in minerals and metals not existing in the older rocks of the north, and are encompassed by active industrial life in all its phases.

The only lands lying less than 500 feet above the sea-level are Strathmore and the shore borders. The rest of the country is very elevated, the major portion of the Highlands and the central portion of the Lowlands rising over 1000 feet.

The broad estuaries of the Clyde and Forth, the former on the west and the latter on the east coast, penetrate well into the interior, and leave a comparatively narrow space of country between sea and sea traversed by the Clyde and Forth Canal, thus giving continuous water-passages between the Atlantic Ocean and the North Sea.

The Caledonian Canal, again, running through Glenmore, joins the seas by Loch Linnhe and the Moray Firth. Further, the river Clyde, a few years ago only a shallow river, has been cut, dredged, deepened, and confined to a proper channel, so that large vessels are now able to proceed right up to Glasgow, adding much to the prosperity of that city and to the commercial activity of all places on the banks of the Clyde.

A low-lying tract of land extends along the west coast south of the Firth of Clyde, watered by small streams having at their mouths scenes of busy mercantile life, but the harbours are not deep. The majority of the watercourses throughout the West Lowlands are from the central districts and either join the Clyde and thus run north, or flow south in parallel valleys and empty themselves into the Solway Firth; of which last Nithsdale and Annandale are well-known examples.

There are no ports on the east coast south of the Firth of

Forth, the Lowland hills running up to the sea south of Dunbar. The waters of all this eastern district are gathered into one river, the Tweed, which flows into the North Sea.

A considerable portion of the Lowland plain is composed of carboniferous rocks, and consequently covered with mining and attendant industries.

The coast-line, including all indentations, is about 2500 miles in extent, the west coast facing the Atlantic being bold, rugged, and precipitous throughout, and deeply indented. The eastern shore, on the other hand, except in the extreme north, is low and available for good harbours, although, like England, liable to be sand-blocked.

Scotland, relative to the continent of Europe, is not so well placed as England. The coast north of the Forth lies in too high a latitude to be in the track of vessels bound either up or down; further, the resources of the country are less than those of the sister kingdom. Nevertheless, considerable commercial activity prevails from Aberdeen to the Firth of Forth on the east coast, and from Glasgow to Girvan on the west.

173. The chief port and commercial centre is Glasgow, other ports on the west coast being Girvan, Ayr, Troon, Ardrossan, Greenock, Campbeltown, and Clyde ports; on the east coast, Wick, Inverness, Banff, Peterhead, Aberdeen, Montrose, Dundee, Arbroath, Burntisland, Bo'ness, Grangemouth, and Leith.

Centres of industry lie on the lands not elevated above 500 feet above the sea-level. The chief are: cotton, Ayrshire towns, Glasgow, Paisley; wool, Glasgow and mid-east counties; flax, Dundee and neighbourhood; damask, Dunfermline; jute, Dundee and neighbourhood; hosiery, Galashiels, Hawick; carpets and tartans, Kilmarnock; hardware, Glasgow circle; glass, Alloa; chemicals, Glasgow; dyeworks, Perth; paper, Edinburgh; shipbuilding, Clyde towns, the Forth, and Aberdeen; railway junction distributing centres, Dingwall, Perth, Larbert, Motherwell, Kilmarnock, Dumfries, Galashiels, &c.

Railways are most abundant in the Glasgow, Stirling, Edinburgh, and Peebles circles, the Highlands generally being sparsely furnished with these "means of communication," as also the sparsely peopled lower Lowlands—facts which once again illustrate how physical geography influences material progress.

IRELAND.

174. Ireland is a distinct island of the United Kingdom, separated from England and Wales by the Irish Sea, and from Scotland by a narrow north channel only thirteen miles across.

Exposed on the west, south, and north to the Atlantic, the island has an area of 32,523 square miles, of which nearly two-thirds, inclusive of the "Great Bog of Allen," are infertile.

There is no portion of the British Isles better placed for commerce than Ireland, with the one exception that she lies farther from European supplies and traffic than any other part of the United Kingdom. On the other hand, she has on all her coasts many natural land-locked harbours, an open highway to America and the south, to Western and Southern Europe and the far East, besides the very active transit to and from England and Scotland.

The general aspect of Ireland is that of an extensive plain; the only lands rising between 500 and 1000 feet above the sea-level lie in Ulster, along the rocky, wild, and indented west coast, or cluster in the south-west, and fringe the south and south-east coasts to Wicklow. Land lying above 1000 feet is isolated.

The great central plain, embedded, as it were, between these mountains, is really one vast pasture field, hardly broken even by undulations of the land; the interruptions being the Bog of Allen and smaller tracts of such land in the centre, the Slieve Bloom Mountains and spurs in Leinster, and the uplands of Queen's County and Cavan.

This plain is traversed by *the greatest river of the United Kingdom*, the Shannon, which gathers within its basin many tributaries, and finds an outlet at Limerick in a broad estuary opening to the Atlantic.

The other rivers are generally of short course, running from the encircling hills to the sea in more or less precipitous torrents. Their great characteristic is that they fall into lochs or loughs,—deep natural harbours,—and are thus the means of inviting mercantile intercourse as well as industrial life. Against this advantage is the fact that, except on the east coast, these natural harbours have their entrances turning away from land and facing a vast ocean; consequently commerce favours more especially the east and south coasts. The harbours on the east are largely artificial, but those on the south are generally deep, and safe, and lie directly in the course of vessels passing between England and the Atlantic.

175. The chief commercial centre is Belfast; the principal ports are Belfast, Dublin, and Cork or Queenstown. Other ports on the east coast are Newry, Dundalk, Drogheda, and Wexford; on the south coast, Waterford and Kinsale; on the west, Tralee, Limerick, Galway, Killala, and Sligo; and on the north, Londonderry.

Industrial centres are principally situated in Ulster, where flax is the staple. Belfast, Lurgan, and Dublin are centres for flax tissues, linen, handkerchiefs, and muslin. Cotton and wool are only small industries. Lace occupies the inhabitants of a few villages and towns, Limerick supplying guipure lace; hosiery, Balbriggan; pottery, Belleek; paper, Dublin; distilling, Dublin, Cork; shipbuilding, Belfast; agricultural centres, Waterford, Cork. Each county, too, has its "market town." Railway distributing centres in Armagh, Omagh, Dundalk, Mullingar, Athlone, Maryborough, Kilkenny, Clonmel, Mallow, Limerick.

Canals are easily cut, and the chief river-basins unite by the Grand, Royal, Barrow, Blackwater, and Newry Canals.

Railways join each coast, but they are nowhere abundant. Dublin joins by direct line with Galway, Westport, Ballina, Sligo, Londonderry, Belfast, Wexford, Waterford, Cork, Tralee, and Limerick.

The people are not classed among the most active of the western nations. The masses are lamentably backward, or the map would be studded with industrial and commercial centres, to as great an extent as elsewhere.

QUESTIONS.

Pars.

- 165 and 166.—1. Define the physical conditions of a country “well situated” for commercial enterprise, and then examine how far these conditions exist in the United Kingdom.
- 167 and 168.—2. Sketch the watersheds of England, with the river-basins, and show how the national industries are affected by these and other physical features.
- 169.—3. Enumerate the chief centres of our *special* manufactures, ascribing to each, respectively, the causes of its localisation.
- 170.—4. Describe generally the geography, with the industrial and commercial characteristics of Wales.
- 171–173.—5. Contrast the Scottish Highlands and Lowlands in their natural aspects, their industries, and their trade.
- 174–175.—6. “Ireland does not exhibit proofs of the material progress and commercial enterprise which her geographical position and resources might presuppose.” Investigate this assertion.

CHAPTER XXII.

STUDIES OF THE UNITED KINGDOM—(Continued).

Par. 176. Home trade.—177. Constituents and localisation of England's mineral resources.—178. Agricultural regions and local produce.—179. Importance of the English fisheries.—180. Intercommunications.—181. Wales. Resources and industries.—182. Mineral resources of Scotland.—183. Agricultural resources and fisheries. Means of communication.—184. Mineral resources of Ireland.—185. Agricultural resources and fisheries.—186. Means of communication.

176. England belongs to a division of the "General Trade," as the recipient and exporter of every species of cargo to and from every quarter of the globe; *but the distinctive name given to mercantile movements when confined to British shores is that of the "Home," "Coasting," or "United Kingdom Trade."* With regard to foreign movements England simply means "**Home.**"

The whole trade, foreign and home, is founded primarily upon the earth-gifts with which our country is so richly endowed; and of these "gifts" those of the mineral kingdom stand first in order, as originating in the native rocks, and not, like the economic plants and animals, having been introduced.

177. England is rich in minerals and metals, coal, iron, and copper ranking amongst the most important.

Aluminium and magnesian earths and products, albite, amygdaloid, arsenic, antimony, agate, basalt, baryta, brick-clays, bismuth, building-stone, coal (anthracite, steam, house, cannel or parrot, bituminous and non-bituminous), clays, calamine, chalks, copper, crystals, chalcedony, cobalt, chromium, coprolites, charnwood stones, cawke, chert or china-stone, chlorite schist, cement stones, carnelian, dolomite, flints, felspar,

fuller's earth, fluor spar, freestone, fire-clay, flagstones, granite, greensand, gypsum, glass sands, graphite, hæmatite ores, hones, heavy spar, iron, jet, kaolin, limestone, lignite, lead, millstones, marl, marble, manganese, magnesian limestone, muriate of soda, nickel, ochres, oolite, onyx, porphyry, pipeclay, paraffin shales, phosphatic nodules, paving-stones, potter's earth, plumbago, pudding-stones, rottenstone, rock-salt, septaria, serpentine, sulphate of baryta, syenite, salt, silver, sandstone, stream-tin, slates, tin, uranium, and zinc occur in various parts of the country.

Arsenic chiefly in the copper-mines of Cornwall.

Bismuth in Cornwall and Devon.

Building and ornamental stones in the districts of Portland, Purbeck, Petworth, South Devon, Bath, Box, &c.

Coal in several well-defined basins or fields—(1.) *The Cumberland basin*, giving a good coal, but of secondary commercial importance, with outlet at Whitehaven. (2.) *Northumberland and Durham*, a very important field, yielding the well-known North Country coal, with outlets at all ports from Warkworth to the Tees. (3.) *Yorkshire basin*, running into Derbyshire and Nottinghamshire; these two fields lie in or adjacent to the great York plain, with outlets at Hull and Grimsby on the east and Liverpool on the west. (4.) *The Lancashire and Cheshire fields*, covering from the Cheshire plain to the Pennines, with outlet on the Mersey. (5.) *Staffordshire, North and South*, from the Potteries to Dudley, chiefly used for home consumption. (6.) *Warwickshire*, Coventry basin. (7.) *Worcestershire*, Wyre Forest field. (8.) *Leicestershire*, Ashby-de-la-Zouch. The last four named lie in the central plain. (9.) *Shropshire*, Coalbrook Dale and Severn valley. (10.) *Forest of Dean*, also in the Severn valley; and (11.) *Bristol and Somerset*, Radstock.

Copper mainly in Cornwall, Devon, Cumberland, Staffordshire, and Wales.

Fire and brick clays in Worcestershire, Stourbridge, &c.

Iron close to all the coalfields, except that of Northumberland and Durham, although there is a little iron round Hexham.

The leading districts are Cleveland, Cumberland, for **red hæmatite** and "**kidney**" ore; Lancashire, Staffordshire; **magnetic ore** in Devon and Rosedale, Yorkshire; **micaceous ore** in South Devon and Cornwall; **brown hæmatite** in the carboniferous rocks; **ironsand** in Oxford, Northampton, Kent, Sussex, and some of the eastern counties; **spathic ore** in Durham, Devon, and Somerset; **clay ironstone** in Monmouthshire, Gloucestershire, Shropshire, Staffordshire, Yorkshire, and Derbyshire; and **iron pyrites** in the Cleveland district.

Kaolin and **petuntse** occur at St. Austell in Cornwall and Devon.

Lead in Durham, Northumberland, Yorkshire, Cumberland, Westmoreland, Derbyshire, and Cornwall.

Manganese in Devon and Cornwall.

Nickel in Cornwall and Cumberland.

Pipeclay in the districts of Poole and Purbeck.

Salt in Worcestershire, Droitwich, Cheshire, Nantwich, and the valley of the Weaver, an affluent of the Mersey, with *brine-springs* in a few other places.

Tin in Cornwall and Devon.

Zinc in Derbyshire, Cumberland, and Devon.

178. **England may be divided into three distinct agricultural regions**—(1.) *That of herbage*, north and west, mountainous, with a wet and mild climate. (2.) *Downs*, south, chalky, with a short pasturage. (3.) *Perfect cultivation*, central, east, and south-east.

Agricultural produce comprises barley, beans, beetroot, clover, coleseed, flax, fruits (apple, cherry, pear, plum, strawberry, gooseberry and currant), hemp, hops, hay, mustard, oats, peas, pulse, pastures and dairy-products, perfume-flowers, potatoes, roots and green food, rye, rapeseed, turnips, &c., vetches, vegetables, woad, wood, and wheat.

Cereals are grown chiefly in the centre, east, and south-east; **barley** to the north of the Thames and in Central England; **wheat** in Essex, Kent, Cambridge, Suffolk, Norfolk, Lincoln, Rutland, Hertford, Bedford, Berkshire, &c.; **oats** in the

northern counties; **rye** but little. In England wheat will mature at an average of about 1000 feet above the sea-level, and oats at nearly double this height.

Hops in Kent, Essex, Hereford, Worcester, Sussex, and Surrey. **Orchard fruits** chiefly in Devon, Monmouth, Hereford, Somerset, and Worcester. **Cherries and strawberries** in Kent. **Pastures and potatoes** are general; the former, for dairy-produce, mainly in Dorset, Somerset, Devon, Monmouth, Hereford, Gloucester, Cheshire, and Leicestershire.

Vegetables, universally, but especially as a thriving industry round all large towns, with the usual resources of a nurseryman's or market-gardener's industry.

Wood.—English timber consists of ash, alder, aspen, blackthorn, beech, birch, chestnut, elm, fir, holly, oak, yew, and many imported trees.

Tobacco has been planted experimentally in Bedfordshire, Berkshire, Cambridgeshire, Cornwall, Cumberland, Devon, Essex, Gloucestershire, Huntingdonshire, Kent, Lincolnshire, Middlesex, Norfolk, Staffordshire, Surrey, Sussex, Warwickshire, Westmoreland, Worcestershire, and Yorkshire.

The strictly agricultural or corn-growing counties of England are Rutland, Lincoln, Essex, Norfolk, Cambridge, Suffolk, Huntingdon, Hertford, Buckingham, East Yorkshire Riding, Bedford, Berks, Kent, Sussex, Surrey, Warwick, Hampshire, Middlesex, Northampton, Nottingham, and Oxford.

Grazing counties:—Cheshire, Yorkshire (North and West Riding), Worcester, Wiltshire, Westmoreland, Stafford, Somerset, Shropshire, Northumberland, Monmouth, Leicester, Hereford, Gloucester, Lancaster, Durham, Dorset, Devon, Derby, Cumberland, and Cornwall.

179. Whether in sea or river, **the English fisheries** are very important, and give employment to many thousand persons. The chief seats of the sea-fisheries are off the east coast to the sandbanks in the North Sea, the produce generally coming into Grimsby as a central depôt, although each seaport on the coast has its own number of fishing-boats and men; off the

Norfolk coast, with Yarmouth as a centre for *herrings*, the bulk of which are "*bloated*," or half-salted and smoked, and distributed everywhere.

Billingsgate, in London, is the central market of the kingdom, the fish arriving both by river and rail. Off the south coast, as far as the Isle of Wight, is the principal fishery for mackerel; and to the west, in the English Channel, off the Cornish coast, for pilchard.

The sea-fish coming into market consists in the main of cod, herring, ling, mackerel, pilchard, sprats, plaice, turbot, soles, and other flat fish, whiting, and haddock. The fresh-water fish are chiefly dace, tench, carp, salmon caught in the rivers, trout, &c. Shellfish and crustacea are oysters, mussels, periwinkles, whelks, crabs, lobsters, prawns, and shrimps.

180. Railways reticulate the land in all directions; every town is in easy communication with every other town, and even remote villages are accessible by the iron road. The northern-running lines are in general "link" lines; those running south, east, and west are more properly "trunk" lines. Every port communicates with all inland markets; add to these the coasting-vessels, the canal and river barges, and by these facilities the trade movements in England are rapidly accomplished in any desired direction.

WALES.

181. Wales belongs to the General, United Kingdom, or Home trade, and has no further special commercial designation.

The chief wealth of Wales lies in its resources of *coal*, *iron*, and *slates*. The other products are cobalt, building-stone, copper, gold, claystone, hornblende, iron, ironstone, lead, millstone grit, mica, magnesian limestone, porphyry, silver, sandstone, trap, and zinc.

Coal—The extensive *South Wales field*, the largest in the United Kingdom, lies in the Glamorgan plain, and extends from Monmouthshire to Pembroke, with outlets at all the Bristol Channel ports. **Pembroke** coal is anthracite.

Other deposits are in *Denbigh*, *Flint*, and a small bed in *Anglesey* near Maldreath Bay.

Gold occurs in Merioneth.

Copper in Anglesey and North Wales.

Iron contiguous to the coalfields named above; red hæmatite in the north, and brown hæmatite in the south.

Lead in Flint, Denbigh, Merioneth, Montgomery, Cardigan, Radnor, Glamorgan, and Carmarthen.

Slates in the mountains of North Wales; Carnarvonshire being the centre, followed by Merioneth, Montgomery, Denbigh, Cardigan, and Pembroke. Carnarvon, the Menai Straits ports, and Tremadoc are the chief commercial outlets.

Agricultural resources are poor, chiefly grazing. In the valleys and on the flats, and specially in South Wales between the mountains and the sea, the soil is generally fertile; all ordinary husbandry is carried on, and to a great extent "market gardening" near the towns.

Tobacco has been experimentally cultivated in Glamorgan. There are no agricultural specialties.

Fishing is prosecuted locally, both at sea and in the rivers and lakes.

The railway systems connect (locally) North, South, and Mid Wales with all parts of England; while the southern ports give over-sea communication with any part of the world.

The foreign traffic from North and West Wales is unimportant.

SCOTLAND.

182. Scotland, as part of the United Kingdom, joins in the commercial designation of the home trade. The southern half of Scotland is the chief locality for mining industries, coal, iron, and lead being the principal minerals worked.

The products of this kingdom consist of antimony, amygdaloid, basalt, building-stones, coal, clay-slate, cairngorm stones, clinkstones, copper, flagstones, freestone, gneiss, granite, greenstone, greywacke, gypsum, iron, lead, limestone, lime,

marble, manganese, mica, pudding-stone, porphyry, plumbago, quartz, rock-salt, silver, sulphate of baryta, serpentine, shell-marl, sandstone, slate, trap, syenite, whinstone, and water of Ayr stone or whetstone.

Coal is worked in a well-defined field or succession of fields, from the southern part of Fife to the Ayrshire coast, running from north-east to south-west, and touching the counties of Fife, Clackmannan, Stirling, Edinburgh, Lanark, South Haddington, North Peebles, Linlithgow, Renfrew, and Ayr; coal also occurs in Dumbarton, Kinross, and Arran.

Granite is obtained chiefly from Aberdeen.

Iron occurs within the Carboniferous area and contiguous to the coalfields; lead principally in the Lowther Hills, in the counties of Linlithgow, Lanark, Ayr, Clackmannan, Fife, and Argyle.

183. **Agricultural produce** consists of barley, beans, cattle-food, flax, oats, pasturages and dairy-produce, potatoes, rye, roots, turnips, green vegetables, and wheat.

Wheat is capable of successful cultivation nearly as far north as the 58th parallel, beyond which only the hardier grains, such as *rye*, *oats*, and *barley*, come to perfection. In North Scotland *wheat* does not succeed higher than 400 feet above sea-level, and *oats* 950 feet; but *bigg*, a kind of barley, will thrive at 1000 or 1100 feet.

The Highlands (granite) are generally sterile. Only one-fourth of the area of Scotland is available for cultivation, and of this one-half is grass. However, the cultivated parts show by their returns the result of careful and intelligent agriculture.

The principal cereal is oats; wheat stops at Dornoch Firth; **flax** is cultivated principally in the east.

Tobacco has been planted in Aberdeen, Banff, and Dumfries.

The fisheries off the entire coasts of Scotland are important and valuable, as are also those of the inland waters, whether loch, river, or lake. The salmon-fisheries of Scotland are flourishing, this fish abounding in the Tay, Dee, Dor, Tweed, Findhorn, Spey, &c. The principal sea-fishing is that of

herrings off Caithness and the Moray Firth, as also off the Firth of Forth and in Loch Fyne. Scotch market fish and shellfish include turbot, soles, salmon, cod, ling, mackerel, haddock, sprats, herrings, sparling, torsk, saith, whiting, halibut, brill, plaice, flounder, eel, skate, lobster, crab, oyster, mussel, clam, &c. The Shetland Islands and Wick, the Yarmouth of Scotland, are important centres.

The Lowlands and east coast to Aberdeen have the best means of communication. Roads into the Highlands, begun as a military necessity, opened up to the English what to them had previously been an unknown country. These means of communication, since much extended, have developed the few local industries, but are of more consequence to the Highlanders as inviting tourists to the wild scenery of the "land of brown heath."

The Lowlands, however, are a busy scene of commercial activity. Glasgow, Leith, Dundee, Aberdeen, and other east coast and Ayrshire ports are in direct communication with each other, and all the Scotch industrial centres with England. Communication between the two countries is by "link" lines *vid* the east and west ends of the Cheviots, the one by Berwick-on-Tweed, the other by Gretna.

IRELAND.

184. Ireland, as part of Great Britain, belongs to the United Kingdom trade. Commercially, vessels employed in Irish waters are termed coasters, as in England. At times the west coast of Ireland commands a higher return to the shipowner than any other part of the United Kingdom, owing to the greater risk attending sailing in the open ocean.

Ireland is not so rich in mineral resources as England, but iron ore is plentiful in parts, and there are copper and lead mines, not much utilised, owing to the absence of coal.

Among the resources are antimony, arsenic, basalt, building-stone, clay-slate, coal (being chiefly anthracite—is inferior and

but little worked; the best for household purposes is mined at Dungannon; the rest is only used for burning lime, &c.), copper, culm, chalk, chlorite, dolomite, flagstones, fuller's earth, granite, gold, greenstone, garnets, greywacke, hornblende, iron, lead, lignite, limestone, mica, marl, marble, magnetic ironstone, manganese, oolite, ochre, peat, pyrites, potter's clay, porphyry, porcelain clay, quartz, rock-salt, rock-crystal, sulphur, slate, syenite, spar, sandstone, shale, statuary marble, silver, tourmaline, tin, and zinc.

Wicklow, Clare, and Tipperary are the best-worked counties, but the mountain ranges both to the south and west seem to be capable of yielding considerable mineral wealth. Coal is found also in Antrim, Clare, Kilkenny, and Sligo.

Copper occurs in Waterford, Cork, Kerry, Sligo, Wicklow, &c.

Granite extensively in Dublin County, Carlow, the west coast, &c.

Iron especially in the coal districts, Leitrim, Sligo, and Antrim, with ironstone clay in Antrim.

Lead in Waterford, Cork, Kerry, Wicklow, &c.

Marbles are obtained in Donegal, Galway, Mayo, Limerick, &c.

Pyrites from Wicklow.

Slates from Clare, &c.

The interior of Ireland contains carboniferous limestone in large quantities; but for reasons which do not admit of easy elucidation, the manufactures of Ireland, like the fisheries, languish. The only exception is that of "Irish linen," famed for generations, and carried on with energy in the north-east—nearest to the coalfields of England and Scotland—Belfast being the industrial centre.

185. **Grazing and dairy-farming** are the staple occupations; oats the chief cereal.

Agricultural produce consists of barley, clover, flax, hemp, hay, green crops, oats, potatoes, pulse, pastures and their products, rape, rye, sainfoin, turnips and other roots, vetches, and wheat.

The south and south-east are the principal dairy regions, with outlets from Waterford. Flax and hemp in the north-east, other products being universal.

Tobacco has been cultivated in Dublin, Cork, and Limerick counties.

The seas around Ireland swarm with fish, and the inlets are the resorts of vast shoals of cod, herring, ling, hake, mackerel, and many others. Oyster-beds exist off County Clare and in some of the loughs. This branch of industry is very imperfectly developed, and is not in a flourishing condition. Fresh-water fish abound in all the rivers; the salmon-fisheries of the Bann, Foyle, Erne, Boyne, and Blackwater are specially notable.

With reference to Irish fisheries, the Duke of Abercorn, speaking in November 1888, said: "Beyond all question there is a vast harvest of fish waiting to be gathered round the coast of Ireland, and more especially off her Atlantic seaboard, . . . but the deep-sea fishing is a declining industry. . . . There is no doubt that, even in favoured spots, where the harbours are fairly good, Irish fishermen, when they are so fortunate as to take a good haul of fish, are tremendously handicapped, first of all by the absence of means of transit by land; secondly, by the high railway tariff where such a means does exist; and thirdly, by the absence of regularly attending and swift-going steamers for the purpose of transporting by sea to the English and foreign markets."

186. Irish ports are mainly "ports of call," or discharging ports; it is but rarely that a cargo of merchandise is sent from Ireland to a foreign port. The whole sea-traffic may be classed as "cross Channel."

The internal waters are valuable means of communication; the Grand and Royal Canals join the Liffey and Shannon, and thus the two opposite coasts.

The roads are generally well laid out and kept in good repair, except in the more mountainous and remote parts of the country.

Observe that wheat attains its highest perfection in East

England; and oats in Ireland and Scotland. The former requires a rich soil, plenty of sunshine, and not much moisture; oats, on the other hand, like humidity, and will flourish on poorer rocks; barley fills the gap between the two. *Let the student draw conclusions from the localisation of all produce in similar manner, and find for himself a reason for everything in natural, industrial, commercial, and social life.*

QUESTIONS.

PARS.

- 177.—1. Localise the principal mineral and metallic products of England.
178 and 179.—2. Localise, similarly, her agricultural products and her various fisheries.
181.—3. Localise, similarly, the material resources and industries of Wales.
182.—4. Localise, similarly, those of Scotland.
183.—5. Localise, similarly, those of Ireland.

CHAPTER XXIII.

STUDIES OF THE UNITED KINGDOM—(Concluded).

Par. 187. **England.** Factors of commercial activity.—188. Agents engaged in external trade; their range of knowledge.—189. Technicalities of commerce.—190. Nomenclature of ports. Food-products “entered inwards.”—191. Reasons determining the ports of arrival.—192. Nature of British exports and imports.—193. Liners, coasters, and “seeking” vessels. General cargoes.—194. **Scotland.** Supplies coming through England.—195. Influence on northern industry of climate and soil. Seafaring.—196. Contrast with southern industries and trade.—197. East and west coast trades determined by geographical position.—198. **Ireland.** Comparison with Great Britain.—199. Industries of Ulster.—200. Irish agriculture and commerce.—201. Gravitation centres.—202. Smallness of foreign trade.—203. Hopeful commercial prospects.

187. We have seen the “position” of England, and of the United Kingdom generally; we have examined the coast-line and harbours; we have drawn our conclusions as to the localisation of industries from the physical features; and we have traced the earth-gifts in various kingdoms of nature. **Let us now investigate the “life” of the scene as exemplified in “commercial activity;”** that is, how these natural features influence trade, and how our people conduct commercial business.

Internal trade is the first to attract attention; *one town wants what another has, or one part of a country requires what another part possesses.* The towns of Lancashire want the wheat of the south-east counties, while the labourers in these counties desire the manufactures of the industrial sites; thus arises internal exchange, effected by rail and canal.

As the country districts cannot supply the towns with all they

require, neither can the towns continue their manufactures without raw materials; and as England cannot produce all requisites, for they belong to every climatic zone, we must go to other countries for supplies; and as we cannot buy without paying, we must part with our money or our commodities. Though we do not part with much money, we buy and sell to the value of many hundreds of millions of pounds sterling. Therefore we must part with our commodities. In other words, **our internal trade merges into external.**

The large towns and cities standing on our industrial sites prove that this exchange is a vast one, for every individual or labourer in England's workshop has to be supplied with at least the "necessaries of life."

Every one is a worker of some sort; men of learning—merchants, agents, shipowners, brokers, manufacturers, shipmasters, seamen, foremen, clerks, artists, and artisans all labour for the same end, and this end is seen in "commercial activity."

Too much stress cannot be laid upon the "necessity of knowledge." Much information is necessary to enable a clerk or a student to become a valuable man, for it is impossible to work in anything without knowing how to proceed. In most mercantile transactions there are certain recognised duties and requirements; let us review them.

188. The whole of our external trade must of necessity be by sea, and the requisites for the shipowner have first to be considered. He has to concern himself chiefly with *the safety and expenses of the port or ports* he may seek; then the merchant ought to know, firstly, the *foreign markets* for his goods; and, secondly, the *home markets* whence these goods can be obtained, whether home-made or held simply "*in transitu.*" His knowledge has therefore to be more extensive than that of the shipowner, for although he does not trouble himself about the *port*, except for convenience of transit, he should well know the *centres abroad*, whether for further distribution or for immediate consumption; the *means of*

communication to and from the ports ; together with all similar information respecting his own country, such as *railway charges* for carriage, *water rates*, *freights*, *customs duties*, *wharfage*, *warehousing*, *insurance*, and the sundry charges that add to the cost of delivery. He is thus able to judge which answers his purpose best, to deliver his goods *c.i.f.*, which means *cost*, *insurance*, and *freight*, or in other words, delivering his goods to the consignee free of further charge, or *f.o.b.* only, which means *free on board*, leaving his customer to pay all further expenses or charges. The *agent* and *broker* must combine the knowledge both of the shipowner and the merchant. The *manufacturer* is also directly or indirectly connected with mercantile movements ; oftentimes he acts only on the order of a merchant, at other times he is brought into close contact with foreign markets, whether by direct supply or by the simple process of competition. His knowledge requires to be somewhat similar to that of the merchant, adding thereto foreign wages, laws, and bounties, and this simply on the one side of supply and distribution. He has still to consider the purchase of his raw material, whether through a merchant, a broker, or direct. He therefore needs a geographical knowledge of countries or zones whence he can secure supplies, as well as the many commercial distinctions of any commodity wanted.

Commerce cannot be carried on in one corner of the globe alone ; hence commercial geography is a necessity for every one in any way connected with a trade having its roots frequently on the other side of the world. It must be necessary to know whence to obtain supplies and where to dispose of "surplus stock." This, therefore, includes warehousemen, shopkeepers, clerks, foremen, &c.

189. In mercantile transactions concerned with external trade certain technicalities occur which are well understood in commercial intercourse. Our cotton imports are so extensive that they include the shipment of this commodity from many ports in different parts of the world ; but the term

"cotton ports" has a technical meaning, and comprises, commercially, all American outlets on the south-eastern and southern sea-board of North America to Galveston. Other countries and seaports ship cotton, but the first are the "cotton ports" in trade nomenclature.

Again, the American "timber ports" are all ports from the St. Lawrence to Nova Scotia—the Quebec trade—and the ports on the Gulf of Mexico.

The "nitrate ports" refer to those in Chili and Peru; the "teak ports" to those on the east side of the Bay of Bengal; the "rice ports" to Rangoon, Moulmein, Akyab, Saigon and neighbourhood.

Malabar and Coromandel coasts imply the shipments of seeds in chief; Mozambique Channel means a cargo of ground-nuts, and the same with West Africa, adding palm-oil.

The "Plate" usually means Monte Video and Buenos Ayres, while the "Rivers" implies the various ports up the Uruguay and Parana.

The "mahogany ports" are those on the eastern sea-board of Central America.

The "colonial trade" means Australia and New Zealand; while the "ore trade" implies the fetching of this commodity from Bilbao mainly, and also from Huelva, Seville, Cartagena, Porman, Elba, and Benisaf.

Similarly with the Baltic, Mediterranean, General, and other trades; they all convey their own special meaning. Thus the term "Baltic trade" conveys to the owner of an ordinary cargo-boat that he has to proceed to the Baltic, and that the cargo will consist of either grain or wood, while the broker understands the same by his dealings with the merchant.

All these technicalities imply large transactions of goods in and goods out, but all United Kingdom ports do not both receive and ship cargoes. Some import only, some export only, and some do both. *England exports no full cargoes of any one commodity excepting coal or iron and their products; hence out-ports are attached to the coalfields. In-ports are*

situated at convenient points to reach the manufacturing districts. "In-and-out" ports are placed on great rivers, estuaries, and harbours where there is ample wharfage and warehouse room, and where easy distribution and receipt are maintained with the whole country; for all England participates in the supply for these general cargoes which gravitate to the large centres.

190. A study of the position of the various ports on the map, in relation to inland circles, will enable the student further to understand the internal industries and the gravitations, and why some ports are inlets only, others outlets, and some both inlets and outlets.

We see that the east coast and Bristol Channel ports are the cut-ports in chief; London, Liverpool, and the Humber the principal *import* centres, with cargoes of special produce to and from smaller ports. As the bulk of the imports comes into the places named, there has arisen the necessity of regular lines of *coasting-vessels* to carry the "over-sea" goods to the smaller centres for further distribution. These again, coupled with household requirements, have introduced a tide in the opposite direction, namely, *colliers*, to supply the coal for "bunkering" and for household purposes.

Grain, including flour or bread-stuffs, comes principally from the Baltic, Black Sea, Sea of Azov, Danube, Levant, Alexandria, Algeria, India, South Australia, North America, both from the Atlantic and Pacific coasts, and from La Plata and Chili.

The chief grains come thus :—**Wheat**, India, Danube, Azov, Black Sea, American east coast, San Francisco, Oregon, Chili, and Australia. The Argentine Confederation may be looked to in the near future for this product on an increasing scale; **maize**, Danube, Black Sea, Odessa, La Plata, and the United States, **barley** from the Danube and the Sea of Azov; **oats** from Sweden, Russia, and Finland; **rye** from the Azov and Black Sea, Nicolaieff; **peas** from Canada, and **beans** from Egypt and Barbary, Morocco, Saffi.

As grain usually arrives in large quantities, averaging some 7000 to 10,000 quarters in each bottom, the port selected has to be one with facilities for warehousing, unless, indeed, the cargo is sold for further *immediate distribution* inland, or unless the time allowed for discharging the vessel is so long that the merchant can make a warehouse of the ship and dispose of the cargo in lots.

Further, as **our corn markets** are chiefly in the south, south-east, and Central England, the majority of the cargoes come to the **river Thames**, followed by **Liverpool**, **Hull**, **Ipswich**, or any out-port that may be specially ordered. London has the central grain market of the United Kingdom in Mark Lane, but Liverpool is rising rapidly to an importance scarcely second. **Flour** from Fiume usually goes to Glasgow or London, that from Australia to London, while Baltimore ships by regular lines to London, Liverpool, and Bristol.

These food-products, being required in every English market, are stored in the warehouses and distributed inland by rail, canal, and sea coastwise.

Perishable food-products, such as butter, butterine, margerine, eggs, vegetables, and fruit, come entirely by the railway lines and associated trans-Channel steamers. Thus, the butter and butterine of Holland and Denmark reach Hull, Harwich, and London; eggs, vegetables, and fruit from France and Belgium come to Dover, Folkestone, Newhaven, Littlehampton, Southampton, Weymouth, and South Wales.

Other food-products, notably bacon, hams, and lard, from Philadelphia and American east coast ports, are consigned to London and Liverpool; while fruits, tinned foods, and "provisions," as well as dairy-products, come from Canada.

Live animals from North-West Europe come to the slaughter-houses on the Thames, and those from Spain and Portugal to Portsmouth.

Meats, whether tinned or frozen, come to London and Liverpool for redistribution.

191. The reason of these movements of food-products is

very clear. London and Liverpool have the largest granaries and warehouses of any English city. London is the central meat market for all England; hence the convergence of produce to the centres where the merchants and dealers reside; and further, these two cities have the best means of effecting internal distribution, whether by road, rail, canal, or sea. Our agricultural districts lying chiefly coastwise from the Humber south to the Isle of Wight, **oil-cake, linseed, rape-seed, and cotton-seed** are consigned to Hull principally, then Lynn, Ipswich, or the Thames.

Sugar invariably comes to the Clyde, Thames, or Bristol, for the refineries close at hand; and

Tobacco to Bristol, London, and Liverpool.

Spices, drugs, essences, East and West India produce come chiefly to the warehouses of London, followed by Liverpool, which latter port receives the majority of the **West African produce**.

Wood and timber.—Sleepers to Grimsby, a central railway terminus, and London; **Baltic wood** to all east coast ports; **Quebec and American timber** to Sharpness and the Bristol Channel. **Cotton**, chiefly from the "cotton ports" of America, also India, Northern South America, East Indies, Egypt, and the Levant, is imported principally by Liverpool, which is the great cotton emporium or entrepôt, this product being dealt in very largely under such styles as "*spot cotton*," that is, cotton actually in port; or "*futures*," that is, cotton on the way, or possibly only just gathered or even not in existence at all; the latter transaction being purely speculative. Our midland counties from Manchester neighbourhood form the centres of cotton manufacture, the towns for the most part lying on some mountain stream, for the sake of the water and consequent moisture; hence the Mersey or Humber is naturally the most convenient inlet; the former preferable, *first*, as saving the navigation of the English Channel and dangers of the North Sea, and being considerably nearer and a shorter passage than the east coast; and *secondly*, the railway

facilities to the centres from Liverpool are shorter, better, and quicker, besides the natural flow of the streams and smaller rivers running into the Irwell and Mersey.

Wool, from Australia, the Cape, and Plate all comes to London, the central wool market; wool sales being chiefly conducted from this centre. **Special wools** also, as Berlin, Angora, Angola, Merino, and Alpaca, come to London. Although the woollen manufacturing districts are inland and midland, much of the wool is held in the London warehouses

transit, being passed on to the Continent, while there is no difficulty in reaching the manufacturing centres by rail and seaward, the Humber being the seaport for wool, as the Mersey for cotton. An attempt is now being made by some wool merchants to transfer the whole imports to Hull instead of London. **Flax** and **Jute** find an entry into Scotland more than England, for the mills of Dundee and the manufacturing centres of the Lowlands. **Skins** and **leather** come to London or the market at Bermondsey, which also draws from the famous slaughter-houses. As our smelting-works lie near the coal and iron fields, the **copper** of Chili, Port Nolloth, and South Australia goes to Swansea, and **iron** and **other ores** from the ore centres of the Continent to the Bristol Channel ports, Cumberland ports, Tyne, and Tees.

Thus, the imports come to the port nearest the centres where they are to be made up, or whence the facilities of internal transit are best, further governed by the risk of stowage, *i.e.*, silks, spices, or drugs, which do not make a full cargo, but come packed securely in cases, travelling by the regular liners," thence coming on to London or Liverpool.

192. English trade is exportation of raw material in the shape of minerals and metals only; the importation of food-products, as also of raw material for every species of manufacture, and the exportation of these manufactures; with a large import and export of goods held simply "in transit." English manufactures may be stated thus—all metal, steel, and iron work, potteries, and mineral work are carried on by

our own supplies of raw material, augmented by only a comparatively small import of foreign minerals or metals. **All** food has to be supplemented or wholly imported direct. Other manufactures, whether wood, leather, drugs, dyes, essences, or textiles, are dependent upon outside resources and exports from other countries. Hence, the raw material of England is shipped from the ports nearest the "fields," while the manufacturer ships from a port not always the nearest, but one having the greatest facilities for shipment.

Again, except in the case of hardware, iron and metal manufactures, merchants ship by the "regular liners." No one merchant could supply a full cargo of manufactured goods; besides which, goods are packed in crates, tierces, bales, casks, or cases, and require special stowage. Hence a vessel "*takes the berth,*" and from a number of merchants a full cargo is obtained and stowage properly adjusted. **A system of insurance**, much to the assistance of the shipper, effects an "*open policy,*" covering all first-class liners at a reasonable rate; i.e., any vessel of a good class is protected by this policy, without separate insurances on *each* vessel. On a shipment taking place, the value is written off the policy, or rather "*put on risk,*" to the extent of the value of the goods then shipped. A shipment, say, of £1000 is made; this is endorsed on the policy, and holds good to this amount, and so on until the whole amount for which the policy was first taken out is wiped off.

193. We may thus class our mercantile marine under three heads—*regular liners, coasting-vessels, and ordinary cargo or seeking ships.*

Regular liners—not including trans-Channel traffic—run only from the great centres, such as **London** and **Liverpool**, to all parts of the world; **Tyne** and **Humber** to the Baltic during the season—these are geographically the most convenient outlets; **Bristol** and **Swansea** to America and a few other places—these run to assist the local manufactures of tin-plates, galvanised iron, &c., and to drain off the merchandise

of the extreme west. **Coasting-vessels** trade from the centres to all points on the several coasts.

Ordinary cargo boats load coal, iron, or patent fuel out from the Bristol Channel or east coast ports, and bring home **wood** to the east coast, London, or upper Bristol Channel, with occasional cargoes to a particular port; **pit-props** to Newport and Cardiff; **ores** to the east coast, Bristol Channel, or Cumberland coast; **fruit** and **wine** to London; **sulphur**, **valonia**, **South American**, **East and West Indian** produce to London; **cotton** to Liverpool; **cotton-seed** to the Humber; **oilcake**, **linseed**, and **rape-seed** to the Humber and the Wash; **grain** to London, or any other port as ordered; and **sugar** and **tobacco** to London and Bristol.

General cargoes are usually heavy goods, such as iron, nails, galvanised iron, at the bottom of the ship, followed by such articles as casks of cement, tierces and bags of hardware, crates of crockery, bales of paper, boxes of candles, starch, &c., and lastly "fine goods," *i.e.*, Manchester goods and textiles of all sorts carefully packed in cases. In the case of return general cargoes, the meaning is not a cargo of one particular product, as grain, but one made up of several small parcels of various goods, as silks, drugs, essences, fruits, &c.

194. Let us now contrast the activity of Scotland. This country belongs to the same category as England; namely, that of a country **exporting manufactures**, **no raw material except coal** and a little iron, and **importing both food and industrial raw material**. This refers to foreign trade, not coastwise or with England.

Less food is imported into Scotland than into England in proportion to the number of inhabitants, owing to the scattered and poor population, compelled to be content with the produce of their own soil. Until the means of transport are rendered easier—for as yet railways are limited to the east coast and the Lowlands—these conditions must continue.

Oats are the staple crop, the nutritious meal of which grain,

prepared as porridge and in the form of oatcakes, constitutes the chief food of the peasantry.

Scotland depends almost entirely on England for her supplementary supplies, which are introduced to the distributing centres by the coasting-steamers; as, for instance, London to Leith, Dundee, and Aberdeen on the east, and Liverpool to Greenock and Glasgow on the west.

A further distribution is effected by the smaller coasting-vessels, which, starting from Leith on the one hand, and from Glasgow on the other, call at all ports and places round the coast, and also traverse the Caledonian Canal, which runs through the heart of the country. Therefore it is plain that an easy distribution can be made within the limits and neighbourhood of water communications.

Agricultural and Northern Scotland are in a sense self-sustaining, assisted for any deficit by these steamers, which bring from the busy and industrial centres any luxury or necessity required. The agriculturists' "poverty, not their will consents" to the humble limits of interchange, which comprises fish, wool, meat, and the products of their home-stead industries, sent to the cities in return for clothing, leather, and other articles of necessity.

Much of the barley grown is sent to the distilleries for the manufacture of whisky, so that the distribution of raw material is confined to home and internal commerce.

195. The climate affects both agricultural and industrial activity, and economic progress is further hindered by the soil, for the rocks are of primary formation, allowing but poor disintegration; there are no metals in the north, and the soil permits only a covering of a short, scanty herbage. Consequently *agriculture is almost wholly confined to sheep-grazing*, and, wherever the streams enrich the soil, to the cultivation of *oats* for consumption, *barley* for distillation, and *wheat* south of Dornoch Firth.

The only industrial centre north of Strathmore, excepting Aberdeen, is Inverness. Lying on the Moray Firth, on the

sheltered Beaully Loch, and at the north-east entrance to the Caledonian Canal, Inverness stands as an *emporium* for the whole surrounding district, receiving, *inter alia*, the wool from the grazing grounds around, and being thus able to prosecute a fair textile industry in the manufacture of the well-known tartan plaids.

This business is, however, small and really confined to local interchange. Cargoes of wheat are sometimes received over-sea into Inverness for redistribution through the industrial circles of that neighbourhood.

Aberdeen, by its position, is the port of the north, standing at the northern end of the industrial field; it is the local market for the surrounding country, and likewise joins with Inverness in supplying the wants of the inland and coast towns lying to the west.

A little north of Aberdeen the coast-line suddenly sweeps westward, enabling this port to catch all the northern shipping. The sea-towns beyond, "north about" from Aberdeen to the Clyde, can only be designated as fishing-stations.

The want of inland economic resources draws most of the population to the sea-coasts and to seafaring life. The fishing is excellent, and very large catches made from the shoals around the coasts and islands restore the economic equilibrium, and allow the people to "trade" sufficiently to supply their own meagre wants.

196. From Strathmore south we come to the Carboniferous Rocks, with their stores of iron and coal, and an immediate reproduction of mining industry. Iron is manufactured in all branches, and textile work adjacent to these circles starts into existence, as in England.

Further, the Firths of Clyde and Forth, but especially the former, lie so sheltered and so contiguous to the iron and coal fields, that another most important industry has arisen, that of iron shipbuilding. The building of steamships led to the introduction of those large machinery-factories now lying round the banks of the Clyde; so that the Glasgow circle,

with Dumbarton and Renfrew, forms a locality carrying on an extensive and varied business, and making this district a series of towns, within which a large population concentrates.

The greatest amount of business is conducted on the west side of Scotland; but as the coalfields extend into Fife, and the Clyde Canal gives an easy transit between the Firths, an active shipping-trade obtains also to the Forth, for which it is quite adapted, from its position with regard to North Europe. All the exports virtually consist of coals, and the imports are limited to the coasting and Channel vessels, some ore from Bilbao, and a fair amount of Baltic timber, the Firth of Forth being available for an easy Baltic voyage. On this line the Forth ports are "in-and-out" ports.

Glasgow, on the other hand, is an "*in-and-out*" port on a large scale; iron, coals, with textiles, whisky, &c., outwards; iron ore largely, and *general* cargoes, both coastwise and overseas, inwards. It supports, too, several regular lines of vessels to and from the United States, Canada, and the Australian Colonies, besides prosecuting a trans-Channel trade with Ireland.

Thus, Scotland draws her supplies from the same fields that England does, looking, however, to the English emporiums for any deficiency.

With regard to the industries north of the Forth to Aberdeen, beyond the *flax* and *jute* of the Dundee circle, the *cordage* and *sailcloth* of Montrose and Arbroath, and the *granite* of Aberdeen,' coupled with *shipbuilding*, industrial work is confined to a few textiles on the Fife coalfield and the celebrated *dye-works* of Perth.

Dundee has long been noted for the manufacture of the flax grown in the immediate circle, and the propinquity of the Baltic soon attracted *flax* and *hemp* cargoes from Russia and Sweden. The introduction of *jute* made the district of Forfarshire the home of coarse textiles, of *sailcloth* and *cordage*, Canadian flax being brought *via* Liverpool and Glasgow.

The regular lines of vessels to Australia provide an easy inlet for Australian wool, which comes in great measure by sailing-ship, and combined with the resources of the country, partially accounts for the industries of the Lowlands.

Hence, from the **extreme north** to Aberdeen agricultural Scotland sustains itself by a poor commerce, but such as it can have ; while **South Scotland** introduces industries analogous to those of England.

197. These industries concentrate on the most available sites for distribution, namely, *west*, as the Clyde has direct and uninterrupted course to the Atlantic, while the *east* has only *direct* communication with North Europe. Thus dairy-produce, flax, hemp, and wood gravitate to the east ports—London, being on the east coast of England, supplies all the seaports on the east coast of Scotland—the flax and hemp industry attracting jute to its kindred manufactures, and indigo and other dyes for the close-lying dyeworks. The Lowlands and West Strathmore, by the extra facility of the railways, by the safety of its land-locked Firth, and through lying on the main fields of coal and iron, attract all the commerce of the west, of the south, and of Ireland, and hence require a corresponding outlet.

The **west** coast lying in the broadway for trans-oceanic traffic, and the **east** for Continental intercourse, coupled with the short distance and easy transit from coast to coast, combine to **centre** the *Ocean* traffic in the Glasgow circle and the *Channel* traffic in the Edinburgh circle. Inland, Strathmore provides an outlet for all produce south of the Grampians, while the Lowlands “set” in the same direction ; and Glenmore is the “funnel” for the productions of Ross and Inverness county.

198. Ireland is placed, commercially, in a unique position. Whereas England, Scotland, and Wales, by the union of their borders, are mutually helpful the one to the other, their traffic crossing and recrossing without shipment, and their Continental and international communications being, as it were,

all in one, Ireland, as a separate island, must be either "self-contained" or look to the mercantile marine for supplies.

The woollen industry of Welshpool in Wales, for example, joins with the mining industries of Ironbridge and neighbourhood in England, and has the river Severn as a waterway and auxiliary to both countries.

Ireland, nevertheless, possesses fine internal waterways and a system of railways; and although she is destitute of those resources of coal and iron which have advanced the textile centres of England and Scotland, yet in these days of cheap and rapid transit there are hopeful signs of a revival throughout Ireland of the trade which at present maintains vigour only in the north-east. On this subject Mr. Giffen says: "The natural advantages of . . . rich mines are of less importance to a manufacturing community than they were at any former period of the world's history, because of the cheapness of carriage now."

199. Ulster is the industrial province of Ireland. In this active division linen textiles of unsurpassed excellence have long been fabricated. Here we observe the usual features of manufacturing regions—a continued concentration of the people, productive knowledge and skill, and ready means of transport to and from the seaports, for cheapness of conveyance depends very much on "*cargoes* in and out." The harbour accommodation also is good, and reciprocity with the sister island of Great Britain convenient. The remarkable feature, however, of the Irish productive industries is, that the physical advantages of Ulster, where manufactures are active, are not greater than in other parts where they are normally languid or do not exist.

Belfast has every convenience for shipping—can load, discharge, and warehouse; vessels can, in a tide, reach the Ayrshire coast, and the Clyde or Cumberland ports, for outward cargoes; and incoming vessels should be able to load out again at least a part general cargo, as is done in England, where London

and Antwerp join in loading a full cargo. But Ireland has not yet taken full advantage of her position.

200. Owing to the want of mineral wealth, *i.e.*, mineral wealth in any quantity as worked, the population is drawn to agricultural pursuits, except, as stated, in Ulster; consequently we find the whole country given up to grazing, with some cereal and root crops; but either through the want of intelligent "commerce," skill in manufacture, or through the poverty of the people, we find no *bonâ fide* reciprocal commerce. From her whole coasts Ireland barely sends away an entire cargo in one bottom during the year, her trade being coasting and trans-Channel. Irish textiles go to Glasgow or Liverpool for further distribution, her pastoral products to London, Bristol, and England generally, in return for coals and general merchandise.

201. On all her coasts there are only four ports that can be called centres, namely, Belfast, Dublin, Cork, and Limerick; the rest are minor ports for minor circles and local trade.

202. Ireland engages but little in actual foreign trade, drawing her supplies from England. Occasionally a cargo of grain enters a western port, generally a sailing-vessel serving for the time being as its own warehouse. A few cargoes of maize, also, by steamers, come to Limerick and Sligo, and hopes are entertained that the western coast may become a great over-sea import district.

The movements of grain in Ireland are internal only, *i.e.*, in small circles, each county having its "market" for county distribution. Thus, Armagh is a great centre for flax and general agricultural produce for its own county and neighbourhood.

If foreign commerce increased, Londonderry, Belfast, and Dundalk would draw all Ulster produce; Sligo and Galway, with Westport, all Connaught; Limerick and Cork, with Tralee and Waterford, all Munster; and Dublin, Wicklow, Wexford, and Waterford, all Leinster.

Even now the coasting, or rather the trans-Channel, lines

are numerous, and run frequently, sometimes daily, between Belfast and Glasgow, Stranraer and Barrow; Dublin, Newry, and Kingstown to Liverpool; Waterford to Milford; and Cork to Bristol; besides London to Dublin, Cork, and the coast, and coal-vessels from Wales to the coast. There are no regular shipping transactions west of Cork or west of Londonderry.

Cork—Queenstown—stands at the head of Irish ports, but it owes its importance chiefly as a “port of call.” Most of the trans-Atlantic steamers come here for mails. Vessels are also ordered to Queenstown as a final port of call for orders, the practice proving the suitable position of the harbour for commerce, *as no shipowner would agree to go to a port of call situated out of the way.*

203. Summarising the industrial and commercial facts of Ireland, we observe that the husbandry in the raising of cereals, potatoes, esculents, and roots barely suffices for the daily wants of a much diminished population, and that the only industries of any moment are, in the order of their importance, those of flax and linen in Ulster and the Dublin circles, cattle and dairy produce in the circles of Cork and Waterford, distilleries in Belfast neighbourhood and Dublin, and shipbuilding in Belfast and Londonderry.

“The destruction of the poor is their poverty” is a sacred statement, which finds ample confirmation in the condition of the Irish peasantry. The causes of the depression of Irish industry and commerce form a wide subject out of place to discuss in a students’ manual. We can only note the facts that, with seas teeming with fish, the harvests of the deep are gathered by outsiders; that, with pastures which have affixed to the country the poetic appellation of the “Emerald Isle,”—the dairy-produce and provision trade, Dutch and Danish enterprise, and the new-born “factories” of distant Canada, draw from Great Britain yearly many millions sterling. England is willing to buy of Ireland, but goes to other shores for a better commercial equivalent.

Ireland is favoured in resources, and could largely supply our national needs. Cotton, flax, hemp, and jute can be landed just as cheaply at Belfast or Dublin, Cork or other port, as at Liverpool or Dundee; coal from Cumberland, Ayrshire, or Wales can be delivered at a trifling cost; there are no fiscal restrictions or duties, and a circle of great textile industries might readily be worked.

Yet Irish industries droop and commerce is virtually passive. To stimulate, promote, and extend the well-being of Ireland is a question of imperial interest and concern. Citing Mr. Goschen, the Chancellor of the Exchequer, "Wages depend on commerce, commerce on credit, credit on confidence, confidence on security, and security on power." Given these conditions, the "Irish problem" would be solved, capital would flow into Ireland, commerce be extended, the industries created give an interest to the people, and by prosperity and co-operation investments would be remunerative. Ireland would take a prominent place among commercial nations, and money now leaving England for foreign lands would circulate throughout the United Kingdom, and the true meaning of "*commutatio mercium*" be understood.¹

¹ "On veut que les malheurs de l'Irlande aient une cause sociale, religieuse ou politique. - N'auraient-ils pas tout bonnement une cause économique? *La facilité des transports tend à niveler partout la valeur des terres et la population; elle a pour conséquence la ruine de l'agriculture en Europe.* Cette évolution ne fait que commencer chez nous, et l'amoncellement des capitaux acquis, ainsi que la fertilité de notre sol, en ont, jusqu'à présent, singulièrement atténué les conséquences. Mais en Irlande, où il n'existe aucuns capitaux, où le sol est des plus pauvres, cette évolution a dû commencer depuis longtemps et doit avoir des conséquences plus terribles que partout ailleurs. *Ne serait-ce pas là qu'il faut chercher la véritable origine de la crise irlandaise?* Et, s'il en est ainsi, ce qui se passe dans ce malheureux pays ne peut-il pas se reproduire chez nous, tôt ou tard, si l'on n'y prend pas garde?"—"CHEZ PADDY," by the Baron E. de Mandat-Grancey. 1887.

QUESTIONS.

Pars.

- 187-189.—1. In what respects does the range of knowledge required for the shipowner or the merchant differ from that of the factor, broker, or agent?
- 190 and 191.—2. What are the essential characteristics of an *in*-port, an *out*-port, and an *in-and-out* port combined? Refer to examples of all three at home and abroad.
- 192.—3. Show that British exports are not always shipped from ports nearest the fields of production, but from ports with the best facilities for shipment. What is meant by an "open policy" of marine insurance?
- 193.—4. Classify our British shipping, and describe the distinctive character of the trade of each class.
- 194-197.—5. How far is Scotland self-sustaining or dependent upon England? How does difference of geographical position of the east and west coast modify trade respectively?
- 198-203.—6. Describe the industries of Ulster, with grounds for the conviction that Ireland's material progress may be improved and firmly established.

CHAPTER XXIV.

THE NATURAL TRADE DIVISIONS OF EUROPE.

Par. 204. Distinctions between national and natural trade-areas.—205. Characteristics of the "Baltic trade."—206. Characteristics of the "Black Sea trade."—207. Characteristics of the "Danube trade."—208. Characteristics of the "Mediterranean trade."—209. Characteristics of the "General trade."—210. Characteristics of the "Norwegian and White Sea trade."—211. Various trade-areas of Europe as determined by limits of equal seasonal heat.—212. The alimentary and industrial products of the vegetable kingdom according to the same.

204. In the foregoing pages we have traced commercial movements according to *national divisions of territory*; but there is another very important element to be understood, namely, that it is possible for more than one country to join in forming one trade-area, such at least as is understood by this word technically. Thus Sweden, Germany, Russia, and Finland all unite under one commercial term, "the Baltic trade;" or again, all the countries bordering the Mediterranean Sea help to build up "the Mediterranean trade." It is clear, then, that these "**trades**" **must be governed by something more than national divisions**. As the ocean is common to all countries, so must the trade within it be international trade, one in which all join; and as river-flow and mountain-height are physical features and unalterable, so must **the ebb and flow of goods defer to physical features**; hence these various trades depend upon natural areas, irrespective of national differences. The whole globe is thus mapped out into trades and trade-areas, *governed solely by the inlets and outlets for merchandise*.

Every student entering commercial life will probably be

associated with one trade or another, according to the commodity he deals in. If cotton, he must in the main seek America or India, and his transactions will be in the market covering the American or Indian trade-areas. Similarly with wood or drugs; the countries fringing the Baltic or certain of the American ports are the most convenient for supplying the former, and the western parts of Asia the latter; hence, for these commodities, the merchant deals in the Baltic or American trade-areas, and in the Levant and Persian Gulf areas. Let us briefly examine each trade-area, see why it has been so constituted, and what are its special products, premising that full explanations of natural phenomena in one trade-area are applicable to all.

205. **The Baltic trade**, so named from the Baltic Sea, covers all ports within this sea. A glance at the map will show which of these are the most important on any coast, the tests being the state of population of the country contiguous to such port, the means of inland distribution, the capabilities of the port to receive vessels of good draft, and the resources of the neighbouring district for the supply of a return cargo. We have seen elsewhere that the southern and midland districts are the most populous, but that the northern parts are more abundantly supplied with easily procurable natural raw materials; hence we should look to the lower ports to *receive* commodities suited to the necessities of town populations, and the northern ports to *send out* the products, which are floated down the several rivers from the vast forests lying inland and upland. This is, in fact, what we do find; South Sweden receiving all manufactured goods, colonial produce, machinery and tools for manufacturing purposes, coals for the railways, the mercantile marine, and home consumption, and sending out little beyond a few oats, flax, and specialties; Central Sweden receiving similar goods, sending in return steel and iron from the Dannemora fields; the north, having but few towns, receiving hardly anything, but exporting whole cargoes of wood, timber, and attendant products.

The same observations apply to the eastern coast; we have then only further to define the natural area of this trade, see which ports are the most suitable, and examine the products.

Physical features in a great measure define the areas. All parts of the countries lying contiguous to the Baltic and gravitating to that sea will be included in this trade; thus Sweden, Finland, Russia, Germany, and Denmark are all interested in the Baltic trade, and form the "funnel" of which the Sound and Kattegat are the narrow or outlet end.

The natural formation of the Scandinavian mountains forms the western "top side" or boundary—*note, all the eastward-flowing rivers run to the Baltic*—the Finland heights gravitate to the same and form an eastern limit, the country east of these elevations finding an outlet by the White Sea, but partly governed by climatic conditions; that is, if the White Sea be ice-bound and the Baltic open, goods will necessarily ebb and flow to the latter as being the only exit.

The flat lands of Russia and Germany make it difficult to define a hard-and-fast barrier as an eastern or southern limit, but, roughly speaking, the drainage areas of the Neva, Dwina, Niemen, Vistula, and Oder join in making up the Baltic trade.

With regard to ports, those at the entrances of great rivers, at canal openings, or at great railway termini will lead the commerce of an area, and we find these in this trade in Gothenburg, Stockholm, Cronstadt, Riga, Memel, Dantzic, and Stettin.

The staples of the Baltic trade are determined and can be tested by the climatic zones; they are wood, timber, and accompanying products, oats and flax, with wheat from the neighbourhood of the lower ports. Minor produce is fully detailed in "Recent and Existing Commerce," p. 174 *et seq.*

Imports are, of course, governed by industrial wants; thus Stockholm, Cronstadt, and Gothenburg draw coals and general goods; Reval, cotton for the Moscow looms; and the other and smaller ports, commodities required for the near-lying

districts. There is food for thought and study in these "suggestions."

206. Black Sea trade.—This, as the name indicates, applies to the exchange of commodities at all ports in the Black Sea, and is in close connection with the Danube trade—as this river has its embouchure in the Black Sea—and with the Baltic trade. But *why* with the latter? Because the flat surface of Russia presents no difficulties of distribution in *any* direction, for from Central Russia it is as easy to gravitate to the Baltic as to the Black Sea; hence the *destination* of goods is the important constituent factor; those bound east will naturally go out by the Black Sea ports, while merchandise bound west or north-west will probably seek the Baltic as an outlet, and *vice versâ*.

The staple products of this area are wheat from the "black soil," maize from the southern, rye and sometimes wool from the sheep roaming the lower steppes, the mineral oils of Acheron shipped at Batoum or Poti, and a few specialties from the northern shores of Asia Minor.

The map shows that there is no *natural* limitation on the north for gravitation, but the Urals and the Caspian give well-defined eastern boundaries; on the south the uplands of Asia Minor give a shore margin of gravitation ports, but in practice these southern Black Sea ports are not much visited by the larger vessels of the mercantile marine—Trebizonde is the busiest port—as the products of Asia Minor appear more generally to filter through to the larger emporiums on the western shore. Goods from the north ports are not, in fact, sufficient to make up many *full* cargoes.

The deep-sea ports are, in chief, Odessa, Azov ports, Batoum, Poti, Sulina, at the mouth of the Danube, Novoirossek, a new port on the east coast,—and Constantinople, at the entrance to the Black Sea.

Observe how the products of the Black Sea trade differ from those of the Baltic. Wood and timber, with the oats of the north, are entirely absent from the southern ports,

while here wheat, which in the Baltic only gravitated to the lower ports, forms a staple with maize and wool added, indicative of a warmer isothermal.

The Russian policy of protecting home industries tells against the introduction of English goods to any extensive degree, and consequently we only find smaller vessels employed in carrying goods *outwards* to ports in this area, and even these have to call from port to port to discharge *part* cargoes. Constantinople, the chief coaling-station, is really almost the only port to which a full cargo can always be sent, and this chiefly coal.

207. The Danube trade, as its name implies, covers the basins of that river and its tributaries; hence it includes in its natural gravitation all the country lying south of the Bohemian heights, or more properly of the Erz and Riesen-Gebirge and the Carpathians, while the highlands of Upper Austria and the Tyrol form, as it were, the broad end of the funnel westward, while the elevated land of the Julian Alps, Servia, and Bulgaria, forms the southern slope. Note how the gravitation of all this area is naturally *away* from the business-centres of western civilisation and towards the more apathetic east, for the river-flow is from west to east, from the heights of Central Europe to the Black Sea.

The map thus clearly defines the limits of this trade-area except at the north-east corner, where it intermingles with the level plains of Southern Russia.

The introduction of steamships—vessels which can proceed *against* the stream—has made this one of the most important European areas, as far, at all events, as raw materials are concerned. It is owing to increased facility of trade that the ports of Galatz and Braila have risen to the importance as national and international emporia. Notice the situation of these ports. We have already, under the preceding trade-area, mentioned Sulina, at the mouth of the river Danube, for large boats debarred from ascending the river; here vessels have to be loaded from lighters in the “roads.”

The staple produce is again easily defined by climatic zone, altitudinal and latitudinal. Grain is the chief export, varying from wheat and maize to barley and rye. English goods, in return, penetrate all this area, but hindered somewhat by protective and prohibitory tariffs. The demand for agricultural implements and machinery should be an increasing one.

208. **The Mediterranean trade** speaks for itself; it includes all commercial transactions with the ports lying on the northern and southern shores of the Mediterranean Sea, the Adriatic, and the western coast of the Archipelago. Those on the opposite coast are comprised in the "Levant trade."

The natural area covered by this trade is not easy of definition; we can only approximate, because physical features are not stupendous, and artificial aids to transport are so excellent that it is easy to "gravitate against the stream." In Spain the southern slope of the pyramidal structure of the country will "fall" towards the Mediterranean, as will also the Ebro basin. France has its southward-flowing Rhone and Canal of Languedoc; but, as in Russia, transit is easy in any direction, hence the destination of merchandise will here again decide the gravitation. Italy and the Balkan Peninsula have well-defined barriers in the Alps, continuous mountains, and the Balkans; all to the south of these will naturally gravitate to the Mediterranean Sea, or by lateral valleys east or west to the Adriatic or Archipelago. The Levant bounds this trade-area eastwards, while on the southern shore the limit is undefined and undefinable, although the Atlas Mountains would form a natural gravitation frontier; still, all ebb and flow must be to the Mediterranean, except in the far west or the far east.

Over such an area, where the temperate, warm temperate, and the sub-tropical zones meet, it is impossible to enumerate all products. For general reference this is an area of raw material and of finished goods, the former from the more eastern and African ports, and the latter from the western harbours—an instructive example of how more advanced countries interchange finished goods for raw produce, from others

less advanced in industrial or commercial activity. For ports, reference must be made as above, premising that Marseilles is the chief of all the trade-area.

This division of trade is particularly interesting to the student in showing the distribution of raw materials. Notice the populous States sending out manufactured goods, and receiving in return raw produce, both alimentary and industrial; follow those countries not so populous or advanced, exactly reversing this order; whilst others, in an intermediate state, receive and send out both raw material and finished goods. Consider the wheat, barley, rye, and maize flowing out to the Mediterranean from the north southwards, and from the south northwards, mixing with cotton, grapes, valonia, oranges, dates, and gum. See how barley is an excellent crop on the higher lands, while cotton and, in places, rice ripen on the low levels.

209. The General trade area embraces all ports between Hamburg and Gibraltar; it is the western connecting-link between the Baltic trade-area and that of the Mediterranean. There could be no better term for this trade than *general*, for it is a trade of no specialty, but an ebbing and flowing of every description of merchandise—raw produce, “ennobled” products, and finished articles. Its limits include all the most civilised European States and the most populous; hence, by our preceding lessons we find the circulation of goods to be, in the main, raw materials *in*, manufactured goods *out*.

The inland limits of this trade, owing to the advanced facilities for distribution and receipt, are difficult determination, but *naturally* they are easy. Look at the river-flow; all the east to west valleys of Spain gravitate to the coast included in this area. North Spain falls from the Asturian Mountains to the sea also in this trade; the Adour covers a basin enclosed by the Pyrenees and the high land separating the Garonne, and gravitates to Bayonne; the Garonne covers a larger area and centres in Bordeaux; the Loire basin includes a very large portion of Central France, and gravitates to the Bis-

cayan ports; similarly with the Seine, the Maas, Scheldt, Rhine, Ems, Weser, and Elbe.

The chief raw material exports are the ores of Spain, wines of Spain, Portugal, and France, and sleepers from the French Landes; the rest are more or less advanced products. For details see "Recent and Existing Commerce."

The ports are too numerous to recapitulate; they have been given elsewhere; but the student should be able to "read" the commercial importance of any of these from the map alone.

210. The Norwegian and White Sea trade completes the areas of Europe; it consists of *raw materials out*, measured by *finished goods in*; it is a trade limited by climatic conditions, the climatic zone, or isothermal line, being very considerably depressed in this area, for, while Norway lies always open, the "White Sea" is "closed" for several months of the year.

The natural area in Norway is easily definable. The Scandinavian mountains, which form the western boundary of the Baltic trade, here act as the eastern limit of the Norwegian area. The White Sea trade-area is approximated by the basins of the Dwina and Mezen, subject to climatic conditions. (See "Baltic Trade.")

The exports consist of the products of the northern fisheries and of the fields of northern or hardy grains. Here we have left wheat behind as an export commodity, and returned to oats and timber.

The ports of the Norwegian coast are all safe and landlocked, while the great centre of the White Sea area is Archangel. *The trade in these districts is entirely seasonal.*

We have thus mapped out the continent of Europe into "natural trade areas." Each area is, however, capable of further division, which the student should now be able to follow for himself, taking as his guide the river-flow, the "funnel" boundaries, but setting off against these the artificial aids to commercial transit. To facilitate the study of such sub-

divisions, in our next chapter we have examined England *in extenso*, dividing the kingdom into small areas. The reader should be able so to subdivide any country he may be studying.

The student must remember the meaning attached to the word trade-area and trade; *that* is a district of special commercial activity for ebb and flow of goods; *this* the reciprocity which is the basis of all commerce, one area supplying to another what it most requires, and receiving in return that which itself most needs.

211. One word more! Before quitting our review of Europe, let us tabulate for the guidance of the reader the *products* of the Continent according to trade, the *distribution* of raw materials and *industrial work* in relation to trade-areas, both isothermally, *i.e.*, as governed by lines of equal seasonal warmth, and also latitudinally.

Europe and that portion of North Africa which must be included on account of its connection with the Mediterranean trade lie approximately between 71° and 30° N. latitude. The country included between 52° and 71° N. belongs to the Norwegian, White Sea, Baltic, and north portion of the general trades, the bulk belonging to the Baltic. From 40° to 52° N., barred on the west by 25° E. longitude, the district belongs to the Black Sea; from 30° to 47° , barred on the east by 25° E. longitude, belongs to the Mediterranean trade and a small part of the general trade.

Again, isothermally, Europe and North Africa are embraced between the isotherms of 32° and 70° , and *it is these which have the greatest influence upon the distribution of economic products*. The freezing-point 32° just touches the North Cape in lat. 71° ; then losing the beneficial influence of the Gulf Stream, and becoming exposed to the biting winds from the Arctic circle, the line sinks rapidly to the head of the Gulf of Bothnia, then proceeds due east to Archangel, afterwards running south-east to the Urals in about 58° N.; therefore all north of this line has a mean annual temperature lower than the freezing-point of 32° .

The isotherm of 40° strikes Norway about Bergen, runs east-south-east to Cronstadt, then, in sympathy with the more northerly isotherm, runs more or less south-east to Moscow, and strikes the frontier about Uralsk; this isotherm is not deflected so seriously as that of 32° . The line of temperature 50° runs through Brussels, Vienna, Galatz, the south part of the Crimea, and passes into Asia by the Caucasus. Note that this line of equal temperature is more even in its course, its direction throughout being nearly east-south-east by east; 60° strikes Europe at Lisbon, runs through Spain just south of Toledo, skirts the southern shores of France, branches down the west coast of Italy, and rounding the foot of the Apennines strikes across Thessaly, and enters Asia just south of the Bosphorus; the isotherm of 70° runs by the Atlas Mountains in an easterly direction to Alexandria; the only parts of this area of a greater temperature than 70° are the Tripoli coast and Upper Egypt.

Now the isotherms from about 39° to the north embraced between the latitude of 66° to the north include the frigid zone, subdivided into the Arctic 39° to 28° F., and the polar to the north of this. From 74° to 40° F. covers the temperate zone, subdivided into the sub-Arctic, from 48° to 40° F.; the cold temperate from 58° to 48° F., the warm temperate from 68° to 58° F., and the sub-tropical from 74° to 68° F.

212. *The characteristic growth of each area embraced by these isotherms is fully given in the following chart, and we are able to trace each trade-area and its characteristic on the map, bearing in mind that altitude has a somewhat similar effect upon temperature as a higher latitude. The student should also bear in mind, while investigating the distribution of economic products, that a moist climate is desirable for pasturage, but not for ripening crops that require the powerful rays of the sun upon them, unstopped by particles of moisture; that wheat requires a warmer temperature than barley or oats; the vine requires a mean annual temperature of between 50° and 63° , the warmer limit yielding the best*

and finest flavoured grapes; oranges and lemons require a temperature of 62° , and cotton of 68° .

An extract on this point will clear the way for the student:—"The line which forms the northern boundary of the cultivation of the vine, maize, and olive forms an oblique direction from north-east to south-west. This appears at first sight strangely at variance with the known mildness of maritime climates. But the apparent contradiction disappears when it is remembered that the ripening of fruit and of grain depends upon the force of the sun's rays in summer, and is not affected by the severity of winter. The sun's rays must shine unstopped by a moist air; hence in the most western part of England, where the winter is so mild that the camellia, the myrtle, and other greenhouse plants grow luxuriantly in the open air—neither the apricot, the vine, nor the greengage plum produce ripe fruit, for want, as it would appear, of sufficiently powerful sunbeams. Hence also parts of Lapland and North Russia harvest a grain-crop in the short space of three months (which will not ripen at other places of a higher annual temperature), because during the short season the sun shines brilliantly and directly upon the grain; the summer heat is, in fact, greater, but the mean annual temperature is adjusted by a greater degree of cold."

See **Natural History of Commerce**, *Folio Chart*, for—

ALIMENTARY AND INDUSTRIAL PRODUCTS OF THE VEGETABLE
KINGDOM, ACCORDING TO LATITUDES AND ISOTHERMS.

FRIGID.

66°-90° (40°-10° F.)	{	<i>Characteristic Flora of the Zones</i> .—Scanty, dwarf, and creeping plants. Unicellular confervæ and diatoms. Zone of moss and lichen. Zone of upper Alpine plants (simple, but of bright colours, red and blue), as saxifrage, ranunculus, gentian, &c. Berries, dwarf birch, alder, and creeping willow.	{	POLAR.
		<i>Characteristic Flora of the Sub-Zones</i> .—Scanty carpet of lichen and moss. Unicellular confervæ and diatoms and red-snow algæ. Dwarf upper Alpine herbaceous plants (saxifrage, sedum, potentilla, ranunculus, primulæ, and vaccinium, artemisia, claytonia, draba; all simple and bright).		

Sedges (carices) replace the grasses (graminæ). Lichen (reindeer moss), mosses. Berries. Dwarf upper Alpine herbaceous plants (chiefly gentian, saxifrage, ranunculus). Alpine woody plants (as rhododendron, azalea, kalmia). Few coniferæ. Stunted amentaceæ (willow, alder, birch).

ARCTIC.

SUB-ZONES.—I. Polar.

Oil and Fat.—Whale and seal oil and musk-ox fat.

Herbage.—Scanty patches of lichen and moss.

Beverages.—Ice-water, animal oils (seal, &c.).

2. Arctic.

Artificial Drink.—Seal and whale oil.

Oil and Fat.—Whale and seal oil and musk-ox fat.

Herbage.—Carpet of moss and sedges (carex), replacing grasses.

Zonal Limit of Food-Plants and Timber-Trees.—Potato (Europe), birch and willow (Old World). Barley, oats, rye (Europe), fir (Old World).

Supplementary Food.—Berries of dwarf shrubs.

Beverages.—Ice-water, animal oils (seal, &c.).

Fodder.—Reindeer moss (a lichen).

TEMPERATE.

Characteristic Flora of the Zones.—Vegetation sober on the whole.

Fine pastures evergreen in North.

European deciduous trees (angiosperms). (a.) Amentaceæ (birch, alder, poplar, oak, elm, lime, horse-chestnut, beech—yielding timber). (b.) Rosaceæ (fruit-trees, most). (c.) Chestnut, walnut, hazelnut.

Coniferæ (gymnosperms), as fir, pine, larch, cypress, juniper, cedar, yew.

Herbaceous plants, mainly cruciferæ, umbelliferæ, and herbaceous leguminosæ and compositæ.

Cereals (wheat, barley, oats, rye, in North and Centre).

Cotton herb and shrub, fig, date, sugar, olive, laurels, rice, maize, south of the zone. Amentaceæ and coniferæ (except a few sub-tropical forms) begin at 34° (68° F.).

Characteristic Flora of the Sub-Zones.—Rich carpet of simple flowers. Woody Alpine plants as in Arctic sub-region. Reindeer lichen and Iceland moss. Berries. Scanty grasses (graminæ) replaced by sedges (carex) and rushes (juncaceæ). Coniferæ are the chief trees, with some amentaceæ, as beech, willow, alder, birch.

SUB-ARCTIC.

Rich evergreen pastures. Deciduous timber-trees (amentaceæ), as horse-chestnut, lime, elm, oak (bark). Deciduous fruit-trees (rosaceæ mainly). Coniferæ thrive, and yield tar, turpentine, and various resins. Umbelliferæ, cruciferæ, cichoraceæ, and heather abound. Hops, oats, barley, and rye thrive. Flax, hemp, and wheat thrive fairly.

COLD TEMPERATE.

60°-90° (40°-10° F.)

23° 20'-66° (74°-40° F.)

- WARM TEMPERATE. { Evergreen dicotyledonous trees and shrubs (myrtles). Grape, orange, almond, wheat, mulberry, olive, pistachio, tea, cotton-shrub, cork-oak, flax, and hemp thrive. Aromatic labiates, myrtles, and others yield volatile oils. Poppy (opium), rhubarb, manna, foxglove, belladonna, castor-oil plant, and tobacco yield medicinal extracts. Liliacæ (hyacinth, tulip, &c.), with asters and solidago, abound.
 SUB-TROPICAL. { Myrtles and laurels. Aromatic gums (myrrh, &c.), Industrial gums (Arabic and others), from acacia. Prickly shrubs (acacia); arborescent euphorbiacæ. Magnolia, date-palm; tea, camellia. Medicinal extracts, &c.: senna, opium, balm of Gilead, bay laurel, ipecacuanha, ginger, and the resins; asafoetida, jalap, &c., and the solid oil, camphor.

SUB-ZONES.—I. *Sub-Arctic*.

Artificial Drink.—Spirits (from berries, as juniper) and spruce beer, and animal milk.

Oil and Fat.—Seal and fish oil, and grease of bear and other carnivora.

Herbage.—Carpet of sedges and rushes, mainly replacing grasses (graminæ).

Zonal Limit of Food-Plants and Timber-Trees.—Birch, willow (America), lime-tree (Old World). Wheat (Europe), fir (America). Potato (Asia), barley, oats, rye (Asia), peach, cherry, plum, beech, elm (Old World).

Essential Food.—Tripe de roche (lichen), berries, various; rye, barley, cereals. Lat. 60°-66°.

Supplementary Food.—Berries of dwarf shrubs.

Beverages.—Water, milk (animal). Spruce beer, spirits (from berries).

Fodder.—Reindeer moss, Iceland moss (lichens).

Industrial.—Juniper, turpentine, tar, cudbear (lecanora), litmus (rocella). Balsam, hemlock, spruce firs, with juniper (N. America). Spruce and Scotch firs, with dwarf birch and willow (Europe).

2. *Cold Temperate*.

Artificial Drink.—Spirits from barley and potato (whisky, wodka, mouchamore, and common brandy).

Barley and hop beer, with curiant, gooseberry, rhubarb, and elder wines.

Cider and perry, with animal milk.

Oil and Fat.—Animal butter, and hazel, beechnut, and linseed vegetable oils.

Herbage.—Meadow zone, with fine soft herbage, evergreen in northern part, and of artificial grass (viz., pod-bearing), as clover, vetch, &c.

Zonal Limit of Food-Plants and Timber-Trees.—Lime-tree, apple, and pear (Old World), barley, oats, rye (America), beech, elm (America), potato (America), hops (Europe), wheat (Asia,

23° 20' -66° (74°-40° F.)

America), tobacco, and grape (not wine) (Europe), maize (Europe).

Essential Food.—Irish moss (carrageen), truffle, morel (mushrooms), buckwheat (various); barley, oats, rye (cereals); pea (chick-pea), lentil, horse-bean, French bean, soy bean (leguminosæ).

Beetroot and maple-sugar, potato.

Supplementary Food.—Beetroot, cabbages, carrot, celery, endive, girasole artichoke, lettuce, onion, parsnip, potato, radish, swede, spinach, turnip, vegetable marrow.

Aniseed, celery, chive, caraway, coriander, cumin, garlic, horse-radish, leek, mustard (seed and leaf), onion, parsley, peppermint, shallot, savoury, sage, thyme, tomato.

Apple, cherry, currant, gooseberry, medlar, pear, plum, quince, raspberry, strawberry, chestnut, beechnut, hazelnut, walnut, hickory-nut.

Beverages.—Water and animal milk; spruce beer, hop and barley beer, currant, gooseberry, rhubarb, elder (homely wines); cider, perry (pomaceous wines); of barley and potato (whisky, common brandy, vodka, mouchamore, schiedam, and English gins) (spirits); cherry brandy, absinthe, raspberry syrup (liqueurs and syrups).

Medicaments.—Belladonna, chamomile, dandelion, ergot of rye, foxglove (digitalis), ginseng, linseed (meal and oil), mustard (leaf, meal, and oil), male shield-fern, marsh mallow (guimauve), squill, wormwood.

Fodder.—Common grasses, tussac grass, wheat, oats, barley, rye, maize, rice, rye grass, malted corn and combs (graminæ).

Gorse or furze-tops, pea-halm, lucerne, clover, vetches, trefoil, beans (leguminosæ).

Frangos of Thibet, chicory, cabbage, rape, turnip, mangold, swede, beetroot, marrow, potato, mustard, radish, buckwheat, Jerusalem artichoke, oil-cakes (linseed, rape, cocoa-nut, palm), molasses, crushed dates (various).

Industrial.—Myrtle (candleberry), cabbage, plum, katkin of birch, alder, poplar, ash (wax); linseed, rape, hazel, beech, walnut, hemp, garden cress, white mustard (only vegetable oil containing stearine), colza seed, turnip seed, juniper, savin, turpentine, birch bark (to prepare Russia leather), peppermint, lavender, thyme, rosemary (for eau de Cologne), coriander, cumin, aniseed, fennel, penny-royal, caraway, spearmint, garlic, onion.

Dandelion, poppy, lettuce (medicinal), tar, turpentine, Bordeaux turpentine, Strasburg turpentine, pitch, colophane (yellow resin or resin pitch), yellow Burgundy pitch, black pitch, Canada and Carpathian balsams, roasted starch gum (for calico print), salep (of orchis mascula), dextrine or gummy starch (got by diastase's action on starch), pectin (vegetable jelly) of ripe fruit, pectose (vegetable jelly) of unripe fruit, mannite (fermented juice of carrot, flowering ash, beet, onion), saponine (of horse-chestnut), salicine (willow, aspen).

Flax, flock of cotton poplar, hemp, bulrush, osier, bast.
 Alkanet, alder, madder, oak gallnut, oak bark, saffron,
 weld, woad, larch bark, hemlock fir bark, oak bark.
 Ash, alder, birch, black walnut, beech, cedar, cherry,
 cypress, English elm, elder, holly, lime-tree, larch, Norfolk
 pine (S. hemisphere), oak, poplar, sycamore (great maple),
 Scotch elm, walnut, yew.

Miscellaneous.—Bast (from lime-tree, for ropes, mats, twine),
 bulrush (chair-bottoms), genet (*planta genista*) for brooms,
 Dutch rush (*equisetum*) for scrubbing, seaweeds (for kelp,
 soda), orris root (for tooth and violet powder).

3. Warm Temperate.

Artificial Drink.—Ordinary wines (thin, astringent, and tartaric),
 with animal milk.

Fermented milk and honey (hydromel), koumiss, rich
 wines (thick, syrupy, and sweet).

Oil and Fat.—Vegetable oil (olive and walnut), with animal
 butter.

Herbage.—Meadow zone, with fine soft herbage, evergreen in
 northern part, and of artificial grass (*viz.*, pod-bearing), as
 clover, vetch, &c.

Zonal Limit of Food-Plants and Timber-Trees—Maize (Asia),
 rice (Old World), hops (America), grape wine (Europe).

Maize (America), tobacco and wine (America).

Essential Food.—Mushrooms (*fungi*); barley, wheat (*cereals*);
 various peas, various beans, carob-bean or St. John's bread
 (*leguminosæ*).

Manna of flowering ash (*mannite*); beetroot, maple, grape-
 sugar, or starch-sugar, or glucose; potato, maize, rice,
 guinea-corn or durrha, sweet potato or batata.

Supplementary Food.—Artichoke, beetroot, carrot, cabbages, cu-
 cumber, endive, girasole artichoke, lettuce, melon, potato,
 parsnip, pumpkin, spinage, swede, seakale, sweet potato,
 turnip.

Almond, bay laurel, chive, cassia, citron (candied), celery,
 cucumber, garlic, leek, lemon, mustard (seed), olive (oil),
 onion, star aniseed, shallot, tomato.

Apricot, apple, citron, currant, cucumber, fig, Hottentot
 fig, lemon, loquat, melon, mulberry, medlar, orange, pome-
 granate, prunes, French plum, pear, peach, quince, raspberry,
 shaddock, strawberry, tamarind, grapes, raisins, chestnut,
 bitter and sweet almonds, hazel and walnuts.

Beverages.—Water and animal milk; grape, orange (astringent
 and acid wines); grapé (syrupy and sweet wines); chica of
 La Plata, Cognac brandy (spirits); Chartreuse, anis, Noyau,
 Kirschwasser, absinthe, Maraschino, raspberry syrup (liqueurs
 and syrups); lemonade, lemon juice, tea (from *thea*), tea
 (from *yerba maté*), (mild unfermented drinks).

23° 20' - 66° (74° - 40° F.)

Medicaments.—Almond (bitter), asafoetida, angelica, belladonna, castor-oil, foxglove (digitalis), hellebore, jalap, liquorice, linseed (meal and oil), lemon juice, manna, marsh-mallow (guimaube), male shield-fern, mustard (leaf, meal, and oil), olive-oil, orange (sweet and bitter), poppy (opium, laudanum), rhubarb, squill, scammony, wormwood, hemp herb (guniah or bhang), poppy (opium) tobacco.

Fodder.—Black and white mulberry-leaf, for silkworms; clover, sainfoin, vetch, lucerne, trefoil, horse-bean, carobbean (leguminosæ); wheat and chaff, oats and chaff, barley and chaff, maize and chaff, common grass, esparto or halfa (graminæ).

Industrial.—Cabbage (wax), linseed, olive, castor (purging), hazel, walnut, garden cress, hemp, white mustard (see above), sweet almond, poppy, salep (of orchis mascula), orange-oils (solid and liquid), neroli, bergamot, lemon, cumin, aniseed, caraway grass and lemon grass, cassia, roses (attar of, both solid and liquid), peppermint, jessamine, lavender, rosemary (see above), verbena, heliotrope, patchouli, bitter almond, asafoetida, garlic, onion, opoponax.

Dandelion, poppy (medicinal), mastic or Chian turpentine, Japan lacquer, sandarach or pounce, pitch, natural varnish of China, true frankincense (olibanum), brown storax balsam (semi-liquid), white or red storax balsam (solid), myrrh (or pseudo-frankincense), scammony (purging), balm of Gilead, tragacanth (cherry gum), salep (as above), dextrine (as above), pectin (as above), pectose (as above), mannite (as above).

Vegetable silk (pula), cotton herb, flax, flock of cotton poplar, New Zealand flax or phormium tenax, hemp, bulrush, soft rush, osier, paper mulberry of China and Japan (for crape and paper), dwarf Algerian palm-fibre.

Litmus (orchil), oak gallnut, turnsole (test-paper), valonia oak, yellow or Persian berries, sumach.

Boxwood, black walnut, Bordeaux fir, black birch, cedar, cherry, cypress, cork-oak, Douglas pine, holly, hickory, ironwood (purini of New Zealand), magnolia, pencil-cedar, red pine (rimu of New Zealand), sycamore, swamp fir, sandarach or mosquewood (a thuja), walnut, wellingtonia (sequoia), yellow pine (kauri of New Zealand), yew.

Miscellaneous.—Cork-oak (for cork), heath (for brooms), mulberry (for silkworm), roses (for scent), rice pith (for paper), rushes (for chairs and baskets), salsola (soda-yielding plants), tinder (amadoue), from a fungus (polyperus), fuller's teazel (for fulling).

4. Sub-Tropical.

Artificial Drink.—Fermented sugar (rum), and juices, fermented or otherwise, of date and other juicy fruits.

Oil and Fat.—Vegetable oil (olive).

Herbage.—Fine herbage in highlands and forests of India and S. Africa; the rest of the zone is covered with llanos, selvas, the deserts of Sahara, Arabia, and C. Australia (this with kangaroo grass).

Zonal Limit of Food-Plants and Timber-Trees.—Palms, with date-palm (Old World) [southern limit of amentaceæ]. Rice (America). Palms (America), thea (Old World). Sugar-cane.

Essential Food.—Fig, date, banana (various), wheat (cereal).

Cane-sugar, date-sugar, rice, guinea-corn or durra, maize, sweet potato or batata, samh of Bedouins.

Supplementary Food.—Melon, pumpkin, salep root, sweet potato.

Bay laurel, cassia, ginger, lemon, olive, tomato.

Banana, fig and Hottentot fig, lemon, loquat, melon, orange, pineapple, pomegranate, shaddock, tamarind, date (palm), vine (grape), olive and Brazil nut.

Beverages.—Water, grape (syrupy and sweet wines), rum from sugar, brandy from grapes, fermented dates, &c. (spirits), unfermented juice of date and other fruits, thea (tea), coffee (mild unfermented drinks).

Medicaments.—Asafoetida, aloes, balm of Gilead, camphor, fig, gum arabic, ipecacuanha, jujube, jalap, lemon juice, myrrh, poppy (opium, laudanum), pomegranate bark, sarsaparilla, senna, scammony, hemp (extract), bhang, hemp resin (churus and kashash), opium, tobacco.

Fodder.—Maize and rice. Luxuriant graminæ, but no true herbage except at great altitude.

Industrial.—Butter of cacao, laurel-oil; olive, benniseed, ground-nut, sesamum, ram-til; orange, neroli, lemon, bergamot; keova (of screw-pine), verbena, aloes-wood, saffron, patchouli, cajeputi, heliotrope, camphor (solid); asafoetida.

Poppy (medicinal), euphorbia of Canaries, banyan fig-tree (India), yields a milky drink; guaiac, sandarach or pounce, jalap (medicinal), natural varnish of China, scammony (purg-ing), asafoetida (medicinal), myrrh, frankincense, liquid amber (liquid), benzoin, Arabic, Senegal, Bassorah, pectin and pectose (as above), mannite (of flowering ash).

American aloe, cotton shrub, Nepal fibre, pita flax, bamboo and other arborescent graminæ, jute, paper mulberry (see above), papyrus (Egypt).

Fustic, logwood, litmus (orchil), quercitron, red sanders-wood, safflower, sumach, turmeric, mimosa bark, kino.

American cedar, bamboos, gum-trees, laurels, mimosæ (acacia, mimosa), sandarach (mosquewood), yellow pine (kauri of New Zealand).

Miscellaneous.—Bamboo (for many uses, among them for chairs, baskets, screens, cradles). Balsa (light and soft wood used instead of corks, and to make rafts; the silk of the capsule is used to stuff cushions).

Considering the chart, we see that the produce yielded north of isotherm 30° forms the constituents of the "White Sea" trade; that between 44° and 32° , with the Scandinavian mountains as a frontier, forms the "Norwegian trade;" that between 48° and 32° , with longitudes approximately 10° and 30° E., forms the "Baltic trade;" that between 44° and 50° , with longitudes 25° and 60° as boundaries, forms the "Black Sea trade;" between 50° and 58° , with longitudes 13° and 28° , the "Danube trade;" that between 55° and 74° , separated by longitude 25° on the north shore and 30° on the south shore, forms the "Mediterranean trade;" while the whole of the west coast, ranging through the latitudes between 37° and 55° , belongs to the "general trade."

The student will have noticed that there is a portion of the European continent which has not been included in any trade-area—as Switzerland. The reason is clear; it is as easy for the resources of this central or "intermediate zone" to gravitate north as south, or east as west; thus goods sent north will help to build up the Baltic or general trade; south, the Mediterranean trade; south-east, the Danube trade; or west, the general trade.

A careful consideration of this chapter should now enable the student, with the aid of the map, to classify the distribution of all products—raw material, industrial, or finished goods—into their respective trades.

CHAPTER XXV.

NATURAL TRADE DIVISIONS OF ENGLAND.

- Par. 213. The natural divisions of England as defined by physical features
—214. Industries as indicated and influenced by physical features.—
215. The “commercial activity” of England exemplified by reference to a natural area.

213. The United Kingdom is really part of the “general trade,” but in England we understand all parts of the British Isles to be “home”—the **home trade**. Ocean-vessels come “home” to the United Kingdom, and coasting-ships are employed in the “home trade.” No other European country has a system of coasting-vessels like ours; and the trade has grown upon us for several reasons; among others, trans-Channel traffic brings in Continental merchandise, which frequently requires “sending on” to other destinations, and the cheapness of sea-carriage causes these goods to be transhipped into a “coaster;” heavy goods and merchandise of bulky but not-valuable measure require a cheaper means of reaching the great ports than by rail, hence for them use is made of the coasting-vessel; the large seaports and near-lying towns require coal, another employment for the “coaster;” and lastly, all parts want the necessaries, comforts, luxuries, and conveniences which come over-sea into the large emporiums, and the coaster is brought into requisition for the return current. Manufacturing circles send out to the Continent, and receive from it small parcels of goods, which it would not be worth while to send to the large emporiums; here again *the coasting-vessel is called in to take these small cargoes direct to the port required.* Practically, every river

in England is an outlet for a neighbouring circle, and has its port or small harbour—another inducement for the “coaster” which can enter these small ports where a larger vessel would “take the ground.”

Let us examine the areas of England or gravitation circles controlled by these small ports. The Pennine range and the Cheviots give a backbone from which to take our start; all the streams falling on the eastern slope run to the German Ocean, those on the west to the Irish Sea. Therefore these elevations are natural gravitation boundaries. From the Tweed to the Humber there appear to be eight streams falling into the sea—the Aln, the Coquet, the Wansbeck, the Blyth, the Tyne, the Wear, the Tees, the Esk, and the Humber. Of these, the Aln is only of short course; the Coquet is longer, running down from the Cheviots; the Wansbeck and Blyth are both very short; the Tyne runs from the Cheviots as the North Tyne, and from the Pennines as the South Tyne, uniting at Hexham; the Wear courses from the Pennines, as also does the Tees; the Esk is of short course, rising in the North York moors; and the Humber receives tributaries which drain the whole of Yorkshire, sweeping from the Pennines, and covering a great deal of the county. These are not very populous districts, if we except the few large towns such as Hull, Newcastle, &c., and yet *every one of these rivers, excepting only the Wansbeck, has its port, and each port has its special business and drains its own circle.* Alnmouth draws all the produce of the neighbouring agricultural country and transports to London or nearer city populations; the Coquet has the harbour of Warkworth, and is thus able to send out the yield of the adjacent coal-mines, which, if the produce were by compulsion transported by rail, might adversely affect this industry; the Blyth, with Blyth at its mouth, utilises its port for the same purpose and adds thereto shipbuilding, which draws a population and increases the circulation of goods. The Tyne has the important town of Newcastle, to which city ocean-going vessels can ascend;

this centre draws a large population and drains all South Northumberland. Sunderland, at the mouth of the Wear, acts as the outlet for the resources of all Durham; Seaham, a harbour a few miles farther south, gives an exit for the coals from the Seaham fields. Middlesboro'-on-the-Tees is the outlet end for the Cleveland district, through which the river wends its way; the Esk has Whitby, a shipbuilding port, at its mouth; while the Humber has the great seaport Hull, with its subsidiary port at Grimsby and auxiliary outlets in Goole, &c.; this great artery is the highway for all the produce of a large circle, which falls towards Hull as a centre.

The Lincolnshire heights, which run in a south-westerly direction, divide these circles from those farther south; on the west side of this dividing ridge runs the river Trent, which gravitates to the Humber and drains the busy districts of Nottingham, Derby, and Staffordshire, taking its rise in the southern extremity of the Pennine range. East of the Lincolnshire heights, rising in them, and draining all Mid-Lincoln, runs the Witham, with Boston at its mouth, securing the resources of the county and sending them coastwise. The Welland allows flat-bottomed sailing-vessels or barges to ascend to Spalding, the metropolis of the Fens. The Nene has its centres at Sutton Bridge and Wisbech, and distributes largely to the immediate agricultural district; as also does the Ouse by King's Lynn. The East Anglian heights now supervene; the country on the west—Downham, Ely, &c.—gravitating to the Ouse and the Nene, that on the east flowing out by the Yare and Waveney to Yarmouth. The "grain counties" of Suffolk and Essex gravitate by the Orwell to Ipswich, the Stour to Harwich, the Colne to Colchester, the Blackwater to Chelmsford, and farther south to the Thames, which river, navigable for large vessels to above London, draws the yield of the country bordering its long valley, reaching to the Cotswold Hills on the west.

The North Downs act as the southern boundary to the Thames valley, and drain to that river by the Medway.

The whole of the south coast is without a navigable river for commercial purposes, but the harbours of Dover, Folkestone, Newhaven, Littlehampton, Portsmouth, Southampton, Cowes, Weymouth, Dartmouth, Exeter, Plymouth, Falmouth, and Penzance all draw from their immediate circles, and call in the service of the coasting-vessels for their supply of coals and town requisites.

The broad Severn valley almost joining the Trent, and traversing some busy scenes of agricultural, mining, and industrial life, draws a large supply to the central emporium, Bristol, assisted for distribution mainly by Sharpness and Gloucester. On the opposite side, Lydney forwards its own produce of coal and iron sent down from the Dean Forest; while Newport is the gravitating centre of the Usk valley to Monmouth, and the valleys penetrating the Welsh hills among the coal and iron fields.

The Cheshire plain, including the coal of Ruabon and Flintshire, falls towards the Dee and Mersey, which latter river, in Liverpool, secures all the resources of the western side of the Pennine range. Preston, on the Ribble, Barrow, Whitehaven, Workington, and Maryport are all kept active by the circulation of goods in their own circle.

We have now gone round England, and have seen that all the small ports are kept busy with their own neighbouring produce, that our *large over-sea ports* are all at the mouths of the rivers which drain a considerable portion of Central England. *Note the headwaters of the Mersey, Trent, and Severn are separated by but a few miles*, while the Thames and Severn are only disconnected by the width of the Cotswolds; and yet the great ports at the mouths of these rivers, Liverpool, Hull, Bristol, and London, are widely separated, but still so placed that very little of England is left outside the gravitating influence of these rivers on their journey from their near-lying sources to the sea.

214. See, too, how the internal circulation helps the ebb and flow of external trade. We have already pointed out that

the Lincolnshire heights form an effectual barrier between the agricultural counties and the manufacturing districts; hence *the tendency of circulation is from east to west with alimentary produce, and from west to east with manufactured goods*; in each instance the most convenient for over-sea receipt or external distribution, internal and external trade helping each other.

Again, the isothermal lines are more generally from north to south than from east to west, and many places on the east coast have a hot, dry summer, suitable for the ripening of grain; while the west coast, although with a higher annual temperature, has a moist climate suitable for pasturage and herbage generally, and will not always ripen grain and fruit; *hence the set of dairy-produce and of cattle is from west to east*.

The pure waters of Kent attracted the manufacturers of paper; while the streams of Nottingham, Leicester, Derby, and Warwickshire, being free from impurities, are exactly suited for silk manufacture, and the climatic conditions of Lancashire better accord for working in cottons; coal and iron are close at hand also; hence we get a concentration of labourers on these sites, and being placed near the meeting of the great rivers, transit at once natural and easy is afforded to any coast, and almost any part of the coast.

See again how art has overcome any difficulties of transport. Canals, such as the Aire and Calder, are cut among the lower spurs of the Pennines, and throw the opposite sides of a mountain range into one area; similarly with the Trent, Mersey, Severn, and Thames.

Railways, again, annihilate obstacles; the iron way climbs the Pennines and joins Carlisle with Newcastle, Whitehaven, Preston, Liverpool, Manchester, Leeds, and Hull; and so with every part of England.

Thus in our island we see a perfect circulation of goods from agricultural areas to manufacturing and mining districts, and *vice versa*; to and from large emporiums and small ports; every available means of transport being used—the

powerful ocean-steamships, the coaster and steam-barge, the four-masted sailing-vessel, the schooner, and the sloop; the railway, the high-road, and the canal—a marvel of commercial mutual inter-dependence.

215. In conclusion, let us examine the commercial activity of any area; we will take that enclosed between the Lincolnshire heights, the Chilterns, and the East Anglian heights. This area embraces the rivers Witham, Nene, and Ouse. The *straw-plaiting* of Bedford is really the only industry of importance that is carried on; but *seed-crushing* for agricultural purposes is done at some of the ports. There are many “market towns” in this area, such as Spalding, Wisbech, Downham, Ely, St. Ives, Huntingdon, Peterboro’, Horncastle, Stamford, Kettering, &c. A glance at the map will show that no corner of the area is far from its market town. To this town gravitates all the produce of the neighbourhood; here the “market” is held; wants are made known; other parts of the country ask for the resources of some one of the nearest towns; the country towns want iron and hardware, agricultural implements, timber, cabinet work, &c.; these are supplied from the manufacturing towns, while the ports bring in the seed, the cake, the wood, or other requisites for distribution, where sea-carriage is cheaper than land-carriage. The grain of these districts goes across country for the requirements of the town populations, or by the coasting-vessels supplies a want in a populous centre in another area.

Thus a constant circulation is kept up; all the surplus commodities ebbing out to the other areas, and requirements flowing in either by internal means of transit or over-sea.

CHAPTER XXVI.

NATURAL TRADE DIVISIONS OF ASIA, ETC.

Par. 216. Characteristics of the "Levant" trade.—217. Characteristics of the "Red Sea" trade.—218. Characteristics of the "Persian Gulf" trade.—219. Characteristics of the "Indian" trade.—220. Characteristics of the "Straits and East Indian" trade.—221. Characteristics of the "China" trade, the "Japanese" and "North and Central Asian" trades.—222. The latitudes and isotherms of Asia.—223. The trade-areas of Africa.—224. The trades included between the latitudes and isotherms of Africa.—225. The trade divisions of North America.—226. The latitudes and isotherms of North America in relation to the distribution of vegetable raw materials.—227. The South American and west coast natural trade-areas.—228. The latitudes and isotherms of South America.—229. Africa and South America as fields for commercial enterprise.—230. The colonial trade.—231. The latitudes and isotherms of Australia.—232. The West Indian trade-area.—233. Chart of the distribution of "raw produce," as shown by latitude and by lines of equal seasonal heat.

216. The trade-areas of Asia, Africa, America, and Australia can be summarised by the student in detail, in a precisely similar manner to that which has been done in the case of Europe and of England.

The recognised trades of Asia are "the Levant," so named from the eastern waters of the Mediterranean Sea, comprising or "covering" Asia Minor south of the Black Sea limit, and Syria, and including the riches of Persia, Turkestan, the Caspian shores, or Central Asia, sent west by caravan. The chief centre of this trade is Smyrna; *the staple products* are valonia, drugs, essences, fruits, dyes, and specialties. For full list see "Recent and Existing Commerce," p. 260.

217. **The Red Sea trade** speaks for itself, and is common to East Africa and Arabia; it is not of much direct commercial importance, its repute being chiefly as the great highway to India from Europe, including our important coaling-stations of Perim and Aden, with Suez and a military port in Suakim. For the rest, the main business is the conveyance of pilgrims in the season for their religious visit to Mecca, a little cross-sea traffic, and a few specialties from the coast. Aden and Suez are centres.

218. **The Persian Gulf trade**, so named from the sea which runs into the land, separates Arabia from Persia and Beloochistan, covers all the merchandise sent down the Tigris, Euphrates, and Karun rivers, and distributes by the same routes and by caravan. There is no limitation to the area; wherever caravans run, there goods penetrate. This district, like the preceding, is a trade of raw materials and specialties out, measured by manufactures in. *The staple products* are similar to those of the Levant. The centres are Bushire and Bussorah, with the possibility, nay, the probability, of Ahwaz rising to the position of an important commercial centre.

219. **The Indian trade** includes all the peninsula of Hindostan and the ports on the eastern side of the Bay of Bengal; it likewise covers an extensive frontier trade, for the resources of Afghanistan, Beloochistan, Cashmere, Thibet, seeking a seaport, naturally gravitate to Indian ports, and consequently assist in building up the total Indian trade.

The chief centres are Kurrachee, the focus of the Indus and Punjab river-flow, Calcutta of the Gangetic and Brahmapootra valleys, Bombay of the west central districts, and Madras of the east coast and the Deccan. Produce varies in accordance with climatic zone (see "Recent and Existing Commerce"); thus wheat is a staple from Bombay, jute from Calcutta and Chittagong, rice from Akyab, &c., and Bengal, cotton from Bombay and Surat, seeds from the Coromandel and Malabar coasts.

The student must subdivide this area similarly to England.

220. The Straits and East Indian trade is a name given to mercantile transactions to and from the Straits Settlements, Farther India, and the East Indian Islands, the centre of which is Singapore, the gate between the east and the west. It is essentially a "coast trade." Singapore, Penang, &c., act as emporiums for the varied produce of this rich district. This is a region of tropical growth, and yields us many of our "luxuries;" it is a commerce of raw materials on one side, measured by finished goods on the other side. This trade covers the rice ports, teak ports, manilla, hemp, and tobacco, East Indian sago, pearl sago, spices, &c.

221. The China trade speaks for itself; it is the trade with Hong-Kong—our Chinese emporium—and the treaty ports of China. Beyond Hong-Kong, Shanghai is the central city. Coals and manufactures *in*, valued by tea, silk, and specialties *out*, are the characteristics of this trade. Closely allied to the Chinese is the **Japanese trade** and the **North and Central Asian trade**, because of similarity of resources, and because much distribution of merchandise with Mongolia, Siberia, &c., takes place by China and the port of Vladivostok. For details of economic resources see "Recent and Existing Commerce," pp. 209, 258, 284, *et seq.*

The China trade, Japan trade, North Asian trade, and East Indian trade, are all comprehended in the one term, "Trade in the Eastern Seas."

222. Asia lies between the latitudes of 79° N. and the equator. From 30° to 79° N. lat., bounded by 60° E. long., the territory belongs to North and Central Asia, China, and Japan; from the tropic of Cancer to the equator from about 96° E. belongs to the East India trade. The other trades are territorial divisions.

Isothermally, Asia lies between 5° and less, and 82° and slightly more; the isotherm of 5° just embraces the north-east portion of Siberia, and is the coldest region of the Old World; isotherm 13° enters Siberia at the Kara Sea, sinks to about the 56° of latitude, and skirting Yakutsk rises slightly,

and leaves the continent just north of Behring Straits; isotherm 32° , after leaving Europe, enters Asia at 58° N. lat., and becoming still further depressed, passes south of Tobolsk and Tomsk, through Irkutsk, bisects Lake Baikal, and leaves at about the latitude of Nicolaevsk; isotherm 40° runs nearly due east from Uralsk to the Amoor; isotherm 50° , after leaving the Caucasus, bisects the Caspian, touches the Sea of Aral in the south, crosses the desert of Gobi, quits by Vladivostok, and divides the island of Nippon from Jesso; isotherm 60° skirts the southern shore of the Black Sea, touches the Caspian, and running south of the desert of Gobi, comes out slightly north of Shanghai, touching the southern point of Corea and Nippon; isotherm 70° , after leaving Alexandria on parallel 30° N., rises slightly, then falling to the tropic of Cancer quits Asia at Canton; the 77° of annual mean heat crosses Arabia, rises to the tropic of Cancer, then falls through Calcutta, and crossing Burmah and Tonquin leaves at the twentieth parallel of latitude; lastly, isotherm 82° touches Aden, cuts Hindostan just south of Bangalore on the west and Madras on the east, and finally skirts the western shore of the Malay Peninsula.

We thus see that all Asia north of Irkutsk lies within a temperature of less than 32° ; the Chinese coast between 70° and 40° ; of the Japanese Islands, Nippon between 50° and 60° , Jesso between 50° and 40° , and Kiu-siu between 60° and 63° ; the East Indian trade between 70° and 82° ; India between 70° and about 82° ; the Persian Gulf between 70° and 77° ; the Arabian or Red Sea trade between 77° and 82° ; and the Levant between 60° and 70° .

The chart appended to Europe applies equally to Asia within the same climatic zones; to these must be added the torrid zone, subdivided into the tropical from 74° to 78° Fahr., and the equatorial from 78° to 82° . The characteristic distribution of products is appended to this chapter.

223. The recognised trades of **Africa** are four in number, the **North African** or **Mediterranean**, which has already been treated; the **East Coast**, including Egypt, Nubia, and Abyss-

sinia, already noticed under the special title of *the Zanzibar and Mozambique Channel trades*, the **Cape trade**, and the **West African trade**.

Beyond "the Cape," these are hardly anything more than coast trades; that is, the ports are emporiums receiving and distributing goods by caravan. The *staples* of the east coast are ground-nuts and kernels; of the west coast, palm-oil and ground-nuts; and of the Cape, wool, diamonds, copper, ivory, and ostrich-feathers. All these trades are exporters of raw materials only. Owing to the want of advanced means of inland communication and transit, each bay or inlet with any pretence to a safe anchorage has its "port," and to this centre the produce of the immediate circle is sent.

224. Africa lies between about 35° N. and 34° S. latitude, and embraces the region of the greatest heat in the Old World.

The isotherm of 70° has already been described traversing North Africa; 77° touches Africa just north of Sierra Leone, and trending north-east passes through Timbuctoo, crosses the Sahara and Upper Egypt, and leaves at about Kosseir; isotherm 82° skirts the Gold Coast, and crossing the continent traverses Abyssinia and quits by Perim. We have now reached the line of greatest mean annual heat, and as we proceed southwards we again repeat the isotherms north of the equator; but these are all more even in their course, because of the greater expanse of water in comparison with land. Thus isotherm 77° enters at about the Congo, and leaves just south of the Zanzibar coast; 70° touches Africa at the tropic of Capricorn and leaves at Zululand; while isotherm 60° just touches the Cape of Good Hope.

The same tests and charts apply to the southern as to the northern hemisphere; that similar products will thrive in similar and analogous zones is proved by the industrial activity of the Cape, although *naturally, analogous* fauna and flora only are found. The student, in considering climatic conditions in relation to the resources of Africa and Asia, must bear in mind the effect of winds on climate. These

winds are very regular in the central districts of the earth ; the "trade-winds" and the "monsoons" are well known, but their effect on produce, as wet or dry winds, must be understood.

225. **North America**, by which we mean all the continent up to and including the Isthmus of Panama, is divided into two trades—the *States trade*, which includes Canada, and the *Mexican and Central American trades* ; but these may be further subdivided into the Quebec timber trade, the States wood trade, the grain trade, the cotton trade, the tobacco and turpentine oil trade, and the mahogany ports trade.

The eastern side of the continent, facing the most commercial of the Old World countries, naturally attracts the greatest amount of mercantile activity ; in fact, the trade distinctions named above apply only to the east coast ; on the opposite side the movement is generally referred to as "engaged in the wheat trade, 'Frisco and Oregon."

This is a transaction of raw materials and manufactures measured by raw materials and manufactures as far as the States are concerned. With regard to Mexico and Central America, it is mainly raw materials and specialties on their side, valued by finished goods on the other.

The climatic zones will determine the character of the trade. Thus the forests of the north and the pine districts of the south-east States particularise all ports from Quebec to Boston as timber ports, together with the harbours extending from the mouths of the Mississippi to Florida ; the tobacco country of Virginia and neighbourhood make Baltimore the port of export for this commodity ; while Philadelphia sends out petroleum and lard and bacon from the manufacturing towns of Cincinnati and Chicago. New Orleans and the ports on the coasts of Carolina and Georgia are specialised for cotton ; while New York, Philadelphia, and Baltimore are all understood when speaking about the "States grain" trade. The mahogany ports extend along the western side of the Gulf of Mexico.

The west coast has a few centres closely connected with European trade, notably San Francisco, Portland (Or.), and

Vancouver (Puget Sound) for lumber. For the rest, commercial activity on the west is chiefly trans-Pacific.

226. The continent of North America lies between about 70° and 8° N. latitude; of these Mexico and Central America extend from 8° to 33° N., the States from about 30° to 50° , and Canada to the north of this.

Isothermally, the line of 5° just touches the limit of the Arctic circle in the north-east; 13° skirts the northern shores of Alaska, falls to the south-east, and leaves the continent in Hudson's Bay at the sixtieth parallel; the isotherm of 32° touches Alaska just south of the Arctic circle, then deflects south-east, and traversing the north-west provinces and East Maine, leaves the continent on the coast of Labrador close to Nain; isotherm 40° skirts the southern shores of Alaska, and falling towards the centre of the continent comes out at Quebec and Newfoundland; 50° runs along Vancouver, and dipping southward as the others, but not to such an extent, crosses the continent to Washington; 60° runs due west to east from San Francisco to Cape Hatteras; isotherm 70° touches the lower end of Lower California, crosses Mexico, skirts the southern shores of the United States, and finally bisects Florida; 77° crosses Mexico in the latitude of the capital; while the line of greatest heat, 82° , crosses the Isthmus of Panama just at its junction with South America.

The same chart of climatic produce is again available, and very useful lessons can be learnt from the downward and upward curve from west to east of the isotherms up to 60° .

227. The recognised trades of **South America** are two: the South American, which means the east coast — Brazil, the Plate, and "the Rivers"—and the west coast trades. The subdivisions are: the sugar trade, Demerara and Pernambuco; Para for caoutchouc; tobacco from Bahia; coffee from Santos and Rio; and the Plate trade for wool, meats, "extracts," and grain. The west coast means nitrate, and, as long as the deposits last, guano. Hence all this area is raw materials out, valued by finished goods in.

228. South America stretches from about 8° N. to Cape Horn in 56° S.; therefore, starting in the hottest region north of the equator, it passes through a similar zone on the south, and then repeats the isothermals of the north, but, as in Africa, these lines, owing to the presence of the oceans, are but little deflected.

Isotherm 82° touches the northern shores; 77° enters at Quito, and keeping nearly level with the equator crosses the continent to Ceara; 70° begins near Arequipa and passes out at Rio Janeiro, taking a south-east course; isotherm 60° cuts the continent just below Valparaiso to Buenos Ayres; and 50° nearly touches Cape Horn.

229. In considering Africa and South America as fields for enterprise, the student must remember the elevation of the land and the extensive plateaux at considerable height above the sea-level, so that it may be quite possible to colonise, even under an equatorial sun, provided modern means of transit could be introduced. Mr. Stanley, in his wonderful march across Africa from the Congo to Zanzibar, speaks of plateaux very rich in pasturage, and with a delightful climate. Whether interior Africa can become commercially important to us is a question of moment, but cannot be solved until the native tribes are appeased, and until expeditious means of transit can be introduced. Both the East and West African Trading Companies are doing good work in this direction.

230. Trade with **Australia** and **New Zealand** is comprised under the title of **Colonial trade**. To avoid repetition, the student is referred to the lesson on Australasia, preceding, and to "Recent and Existing Commerce."

231. The island continent lies between 8° and 38° S. latitude, Tasmania being a little farther to the southward, and New Zealand extending from 35° to 48° S. Isothermally, the line of 77° mean annual temperature runs across North Australia on the parallel 15° S.; the isotherm 70° strikes West Australia about Freycinet harbour, is deflected to the head of Spencer Gulf, whence it trends north-east and leaves

the Australian shores at the boundary between Queensland and New South Wales; isotherm 60° just cuts off a shore-margin of Victoria. Tasmania lies between the isotherms of 50° and 60° , as do the New Zealand islands, except from the latitude of Dunedin south.

232. The only other recognised trades are the **West Indian trade**, whence we obtain our sugar, molasses, rum, pine-apples, &c., and a general trade among the islands, such as the Canary Islands, Malta, &c.; this we designate the **Island trade**, and refer the reader to "Recent and Existing Commerce, p. 247."

233. We have now traced every trade in the world, and the territory covered by each area. The student will be able with the aid of the chart inserted in the study of European trades, and that next appended, to read any map, both commercially and economically.

See **Natural History of Commerce, Folio Chart**, for—

ALIMENTARY AND INDUSTRIAL PRODUCTS OF THE VEGETABLE
KINGDOM, ACCORDING TO LATITUDES AND ISOTHERMS.

TORRID.

0° - 23° $20'$ (82° F.- 74° F.)

Characteristic Flora of the Zones.—Luxurious vegetation. Tree orchids and hanas in South America. Terrestrial orchids in Malaysia. Palms (date, cocoa, sago), arrowroot, sugar, banana, plantain, fig, cycadaceæ, cactaceæ, coffee, spices. Cereals (maize, durrha, rice). Arborescent graminæ. Arborescent leguminosæ (mimosa). Medicinal barks: euphorbiaceæ and aromatic plants. Cotton shrub and tree.

Characteristic Flora of the Sub-Zones—Fig-tree, tree ferns. Date-palm, cacao-palm, cocoa-nut and sago-palms. Pineapple, tamarind, durian, guava. Tallow and butter trees. Spices (vanilla, cinnamon, cayenne pepper, ginger, clove, allspice). Medicinal and industrial resins (copal, guaiac, gumlac, balsam of Peru, aloes). Medicinal barks (Peruvian or cinchona, quassia). Cotton shrub and palm fibres.

Palms (cocoa-nut, cabbage, and sago). Banana, plantain, yam, arrowroot. Mango, bread-tree, butter-tree. Elais (palm-oil tree). Arborescent graminæ. Pandanus pine, lianas, sapindaceæ. Medicinal barks (sarsaparilla, &c.). Spices (black pepper, pistachio-nut, nutmeg, mace). Gums (catechu, gutta-percha, &c.). Cotton-tree, palm fibres.

SUB-ZONES.—I. *Tropical*.

Artificial Drink.—Vegetable milk (from various trees).

Oil and Fat.—Vegetable butter (nipal and shea) and vegetable oil (cocoa-nut, &c.).

Herbage.—Fine herbage during six months (rainy season), but often inclined to turn rank and woody, and parched up during six months (dry season).

Zonal Limit of Food-Plants and Timber-Trees.—Bread-fruit, plantain, banana, sago, arrowroot, cocoa-nut, coffee, spices, opium, betel-nut. Manioc, yam, arum root, batata (America).

Essential Food.—Bread-fruit, fig, banana, plantain, date, cocoa-nuts (single and double) (various). Ground-nut (leguminosæ).

Date sugar. Cane-sugar, rice, guinea-corn or durrha, maize, samh of Bedouins (graminæ). Sago (palm), arrowroot, tapioca (manioc), Portland sago, from arum root; sweet potato.

Supplementary Food.—Sweet potato, melon, cabbage-palm. Ground-nut (leguminosæ).

Allspice, chillies, capsicum, cardamom, cloves, cinnamon, cashew-nut, ginger pepper (cayenne and black), pistachio-nut, vanilla.

Avocado pear, banana, bread-fruit, cassava, custard apple, dammar, durian, fig, guava, granadilla, jambose, jackfruit, mangosteen, mango, melon, orange, papaw, prickly pear, plantain, pineapple, shaddock, tamarind, date (palm), grape (vine), cocoa and cashew nuts, ground-nut.

Beverages.—Water, vegetable milk, traveller's drink of Madagascar; rum from sugar, octli from agave (spirits); curaçoa, Angostura bitters (liqueurs); cacao (chocolate), and other fruit (unfermented drinks).

Medicaments.—Croton-oil, camphor, cascarilla, cinchona (Peruvian bark), cedron, copaiba balsam, fig, ginger, jujube, jalap, myrrh, nux vomica (strychnos), quassia, sarsaparilla, scammony, betel-net, tobacco.

Fodder.—Dates, Barbadoes gooseberry plant, prickly-pear plant, rice and maize, kangaroo grass, gama grass, and other tall graminæ. No true herbage except during the rainy season; all grasses are parched up during the dry season.

Industrial.—Shanghai wax, gutta podah (wax), cocoa-nut butter or oil, tallow (tree), shea butter, laurel and nutmeg oils, epic oil or butter, ilpa oil or butter, kokum butter, piny tallow of India, benniseed, ground-nut, sesamum, croton, ram-til, cinnamon, cloves, sandalwood, aloes-wood, vanilla, cajeputi, camphor.

Cowtree (Ceylon), hya-hya (Guiana), banyan fig-tree (India) (milky-drink); aloes (purgative), natural varnish of S. America, euphorbium, galbanum, gamboge or gum gutt, benzoin balsam (which enters into composition of Friar's balsam), brown balm of Peru (solid), black balm of Peru

(liquid), balsam of Tolu, yellow gum (Australia), eucalyptus gum (Australia), catechu, pectin and pectose (as above).

Arang palm, Adam's needle, bread-fruit fibre, cotton shrub, cotton-tree, cacao fibre, jackfruit fibre, Manila hemp, Pita flax, Bengal's sun-hemp, cord rush, cable cane, &c, jute, torquilla-leaf, bamboo rush, cocoa-nut fibre, paper mulberry (for crape and paper).

Assam roon, camwood, cochineal cactus, fustic, indigo, logwood, myrobolans, peachwood, quercitron, red sanders wood, sappan or bukkum, turmeric, betel-nut, kino, mimosa bark.

American cedar, arrar (a thuja), blackwood (Australia), bamboos, baobab, beef-tree, bread-tree, cocoa-nut (porcupine wood), ebony (East Indian ebony), eucalypti (hundred kinds of gum-trees, Australia), gordonia (Hindoo-wood), ginko (a conifer), huon pine (Australia), ironwood, jackfruit-tree, lignum vitæ, lancewood, locust-tree, mahogany, mimosa, muskwood and metrosideros (Australia), palms (many), pinkwood (Australia), rosewood, sapan, satin, snake, and sandal woods, teak, trumpet-wood, tree ferns (many), zebra-wood.

Miscellaneous.—Bamboo (as above), cocoa-nut palm (for a hundred various uses: food, drink, dwelling, utensils, implements, clothing, &c.). Cord-rush (for ropes). Tonquin bean (for snuff), Tonquin.

2. Equatorial.

Artificial Drink.—Vegetable milk (from various trees) and palm-wine.

Oil and Fat.—Vegetable butter, and tallow and palm oil.

Herbage.—Fine herbage during six months (rainy season), but often inclined to turn rank and woody and parched up during six months (dry season).

Zonal Limit of Food-Plants and Timber-Trees.—Manioc (Asia), coca-leaf for chewing (as betel-nut of America).

Essential Food.—Bread-fruit, banana, plantain, cocoa-nuts (single and double), yam, ground-nut (leguminosæ).

Cane-sugar, rice, maize, guinea-corn (graminæ). Arrow-root, sago (palm), sweet potato.

Supplementary Food.—Sweet potato, cabbage-palm, ground-nut (leguminosæ).

Allspice, cloves, cinnamon, cardamom, cashew-nut, ginger, mace, nutmeg, pepper (black and long), pistachio-nut, vanilla.

Bread-fruit, banana, cassava, custard apple, dorian, jambose, jackfruit, guava, mango, mangosteen, plantain, papaw, tamarind, yam, cocoa-nuts.

Beverages.—Water, vegetable milk, rum from sugar (spirits), palm (wine), coffee and various fruits (unfermented drunk).

Medicaments.—Croton-oil, camphor, cinchona or Peruvian bark, sarsaparilla, betel-nut, coca-leaf, tobacco.

Fodder.—Tall luxuriant grass. No real herbage except at some

0°-23° 20' (82° F.-74° F.)

altitude during the rainy season ; during the dry season all is parched up (graminæ).

Industrial.—Cocoa-nut oil, palm-oil, tallow-tree, butter-tree, Java butter or mynak kawon, gutta podah (wax), ground-nut, croton, cinnamon, cloves, camphor (solid) of Borneo.

The family of sapotaceæ yield : bottle india-rubber, caoutchouc (india-rubber), gutta-percha of Malaysia. Dragon's blood, euphorbium, galbanum, brown balm of Peru (solid), black balm of Peru (liquid), pectin and pectose.

Banana flax, bread-fruit fibre, cotton-tree, cotton shrub, jackfruit fibre, Manilla hemp, Torquilla leaf, bamboo, cable cane and others, coir fibre.

Arnotto, Brazil wood, braziletto wood, cochineal cactus, fustic, gamboge, indigo, peachwood, (acacia) catechu, divi-divi.

Arar (a thuja), Brazil and braziletto woods, beef-wood, bread-fruit tree, baobab (largest of trees), bamboos, cocoa-nut tree (porcupine-wood), eucalypti (see above), iron-wood, jackfruit tree, locust-tree, lignum vitæ, lancewood, mahogany, metrosideros (Australia), palms (many kinds abound), peachwood, rosewood, satin and snake woods, sandal and sapan woods, trumpet-wood, tree ferns, teak, zebra-wood.

Miscellaneous.—Bamboo (as above), cocoa-nut (as above), coquilla-nut (a vegetable ivory for turners), corozo-nut (used as coquilla), marking nut (to mark linen), rattans (canes of commerce, as sticks, &c), Tonquin bean (for snuff), Guiana.

EXAMINATION QUESTIONS ON THE NATURAL DIVISIONS OF TRADE THROUGHOUT THE WORLD.

Pars.

- 204-233.—1. Name and localise the natural trade-areas of the world.
2. What are the characteristic staples of the Baltic area, the Indian area, the West African area, and the Canadian area?
 3. What latitudes and isotherms are included within the Mediterranean trade-area?
 4. From the foregoing charts specialise the *industrial* products of the vegetable kingdom according to isotherms and latitudes ; deduce therefrom the trade-areas, in which particular products are characteristic exports.
 5. Apply Question 4 to the *alimentary* products of the vegetable kingdom.
 6. Distinguish between national divisions and natural divisions ; illustrate your meaning by a reference to the Baltic trade.

CHAPTER XXVII.

ALIMENTARY AND INDUSTRIAL ESSENTIALS, WITH AUXILIARY PRODUCTS OF THE MERCANTILE WORLD.

EUROPE.

234. In a previous chapter we have shown that **our** chief competitors are situated in zones similar to our own; that, on the principle of the "interdependence of nations," we seek exchangeable commodities from every country and every clime,—hence, all countries become **our** suppliers; and we seek to dispose of our "harvests," chiefly *town-harvests*, to all countries,—therefore, we trust to find **customers** in every quarter of the globe. We have explained, too, that, as a rule, countries do not exchange *similar* goods, although there are exceptions,—see Belgium or France, interchanging with us materials and goods common to both countries;—but the "labour-market," varying fashions, and other outside causes, really explain these anomalous movements. Lastly, we have shown that competition commonly takes two forms,—first, the "running" of similar goods side by side in the market of another country; secondly, the efforts of two countries trying to buy the same article in any market; and to these we added, the supply by another country of goods similar to our own make,—thus the pushing of home-made articles "out of the home field."

The following charts will aid the student in localising and comparing all important "earth-gifts;" and, further, exhibit the use each nation makes of its own resources industrially. The products that are especially abundant and exportable are printed in italics. The countries are classed by zone. A few notes suggestive of thought for the student head each nation-

ality, *e.g.* :—Similar or dissimilar to England? In what way?—competitors, suppliers, or customers? How, where, and for what? Active or passive traders? Compare the manufacturing industries with the earth-gifts.

The student will dissect the charts for alimentary and industrial *essentials*, and for *auxiliary* products.

EUROPE.

NORWAY AND SWEDEN.

Zone of northern grains. Manufactures limited to native earth-gifts. **Competitors** with England in foreign markets for *supplementary* food-products and manufacturing *essentials*. **Suppliers** of useful raw materials. **Customers** for manufactures.

MINERAL.

Native.—Cobalt, chromium, bones, alum, *marbles*, copper, iron, lead, salt, silver, *magnetic iron* (Norway), gold, silver, cobalt, lead, *porphyry*, zinc, bismuth, nickel, bergmahl (infusorial earth), *copper*, iron, coal, salt, *magnetic iron*, tin, arsenic (Sweden).

Manufactured.—Saltpetre beds in Sweden, *steelwork* (Dannemora), glass, earthenware, *ironwork* (Gottland), bricks (Norway).

VEGETABLE.

Solid.—Rye, oats, buckwheat, Irish moss.

Liquid.—Spruce beer (Norway), spirits of juniper berries.

Gums and Resins.—Pitch, tar, turpentine, resin.

Oils.—Beechnut.

Structural.—Timber and deals—pine, larch, fir, oak.

Tanning.—Oak-bark.

Tinctorial.—Tartar lichen.

Various Industries.—Pearl-ash, masts, matches, deal boxes, *amadou* tinder.

ANIMAL.

Skins, Furs, Feathers, &c.—Skins, down, whalebone, quills, *eider* down.

Oil and Wax.—Sharks' oil, whale, seal, and cod liver oils, *castoreum* of beaver.

Solid Food.—Dried fish, fresh fish exported in borax (*turbot*, lobster, herring, salmon).

UNITED KINGDOM.

Zone of *temperate grains*, touching *northern grains* in Scotland. "*Beer and butter*" region. **Commercial centre.**

MINERAL.

Native.—*Coal, salt, tin, iron, alum, Epsom salt*, manganese, copper, lead, zinc, gypsum, septaria, serpentine, kaolin, fireclay, hones, freestone, granites, marbles (Derbyshire), Bath and Portland stone, dolomite, slates, flagstones, millstones, coprolites, paraffin shales, peat, lignite, jet, *graphite* (or plumbago), *heavy spar, fluor spar* (Derbyshire spar), rottenstone, *bathbricks, basalt*, pipeclay, *fuller's earth, ochres*.—Yield of metals, £32,000,000 per annum.—*Mineral waters*: chalybeated at Brighton, Tunbridge Wells, Bath; salo-carbonated at Cheltenham; sulphurated at Harrowgate, Askern, Moffat, Gillesland; saline (with sulphate of magnesia) at Epsom.

N.B.—Notwithstanding the enormous yield of metals, little is exported, owing to the great home consumption.

Manufactured.—*Metal plates* (iron, tin, copper, steel, zinc), *cast iron*; tin, iron, and copper goods; *iron ships, engines, cutlery, machinery, guns*, muskets, swords, *tools, pins, needles, nails, bolts, screws, tin and copper smelting*, chemicals, soap, *gunpowder, potteries*, marble slabs, *slates*, granite quarries.

VEGETABLE.

Solid.—Corn (wheat, oats, barley, rye), vegetables (potato, cabbage, turnip, carrot, parsnip, pea, bean + Irish moss, &c.), fruit (apple, pear, plum, cherry, strawberry, currant, &c.). } Corn and fruits all insufficient for home consumption.

Liquid.—*Beer* (ale, stout, porter), *spirits* (gin, whisky), *wines* (home-brewed).

Spices and Seasonings.—No true spices, but the following seasonings: garlic, onion, leek, shallot, *mint, celery*, parsley, savoury, *sage*, marjoram, *thyme*, mustard (green), garden and water cress, *samphire*, tomato, mushrooms, and various pickles, + caraway and coriander.

Medicines.—No important native ones but *dandelion* (extract of root) and chamomile, mustard; belladonna, foxglove, hellebore, ergot of rye, &c. (poisons).

Oils.—*Rape-seed oil*—Verebna, *lavender*, bergamot, heliotrope, and other perfumes.

Structural.—Oak, elm, beech, Scotch fir, larch.

Tanning.—Oak-bark.

Tinctorial.—Woad.

Textile.—Flax (Ireland).

Fibrous Manufactures.—*Calico prints, white calico, cotton yarns*, ribbons, cotton and linen fabrics, *hosiery*, sail-cloth, *paper*, poplins (Ireland), jute and hemp goods (Scotland), millinery, *haberdashery, mixed cotton and linen stuffs*.

Various Industries.—*Shipbuilding* (England and Scotland), *sugar-refining* (Scotland), matches, calico-printing, *biscuits, jams, marmalades, pickles*, soaps, pomatums, toilet powders.

ANIMAL.

Various Industries.—*Ribbons*, fringes, *carpets*, *blankets*, *worsted*, silk lace, silks, boots and shoes, *mixed woollen stuffs*, tanneries (England), *plaids*, *tweeds*, and *shawls* (Scotland).

Skins, Furs, Feathers, Antlers, &c—Eider down (Scotland and north of Ireland), ox-hides, sheepskins, horns, hoofs, bones, all greatly below the demand.

Oil.—*Whale* and *seal* oils (Scotland).

Liquid Food.—Milk of sheep, goat, ass, mare, cow.

Solid Food.—Swine, bacon, lard, butter (Ireland),—ox, sheep, cheese, butter (England),—ox, sheep, game, *salmon* (Scotland), all insufficient, as also poultry and eggs,—herring, whitebait, pilchard, mackerel, cod, sole, haddock, oyster (east and south coasts chiefly).

DENMARK.

“*Beer and butter*” zone, similar to ourselves. Manufactures depend upon extraneous help. **Exports**, consequently, earth-gifts or advanced products; **imports** are manufacturing necessities. **Competitors** in other markets for manufactures. **Suppliers** of earth-gifts (similar to our own). **Customers** for manufactures.

MINERAL.

Native.—Fuller's earth, salt, *amber*, *peat* (Denmark), *Iceland spar*, sulphur, sal ammoniac, obsidian (Iceland).

Manufactured.—Iron castings, brass and tin wares, firearms, needles, soap, glass, Jutland earthenware.

VEGETABLE.

Solid.—Oats, *peas*, *beans*, *lentils*, rye, wheat, *barley*, buckwheat.

Liquid.—Cherry brandy.

Oils.—*Rape-seed*.

ANIMAL.

Textile.—Wool.

Skins, Furs, Feathers, &c.—Feathers, *down*, hides, skins, whalebone, pigs' bristles.

Oil.—Porpoise, seal, and whale oils.

Solid Food.—Salt beef and pork; sheep, *ox*, *hog*, *fish* (flounders).

HOLLAND.

“Beer and butter” zone, similar to England. Manufacturing industry dependent upon other countries’ supplies; those from native resources practically nil; hence exports are earth-gifts or advanced products, in payment for manufacturing essentials. An emporium for East Indian produce,—own colonies. Competitors in foreign markets for manufacturing requirements. Suppliers of earth-gifts. Customers for manufactures and manufacturing necessities. Competitors, too, for the supply of Eastern produce.

MINERAL.

Native.—*Peat* (the chief fuel), potter’s earth.

Manufactured.—*Diamond-cutting* (Amsterdam), refined salt, earthenware, glass, tobacco-pipes (Gouda.)

VEGETABLE.

Solid.—Buckwheat, beetroot sugar, rye, oats, peas, beans, lentils, cherry, currants, &c.

Liquid.—*Dutch gin* of Schiedam, Curaçao.

Spices and Seasonings.—Coriander and caraway seeds.

Medicines.—Chamomile.

Structural.—Oak.

Tanning.—Oak-bark.

Tinctorial.—Madder, Tartar lichen.

Textile.—Flax, hemp.

Fibrous Manufactures.—Holland linen, tow.

Various Industries.—Clocks, toys, shipbuilding, fuller’s teal, bulbs of tulip, hyacinth, and crocus, clover for seeds, bull and Dutch rushes.

ANIMAL.

Various Industries.—Woollen cloth (Haarlem and Leyden), leather.

Solid Food.—Cattle, sheep, cannon-ball cheese, cured herrings, stockfish (cod), turbot, butter.

BELGIUM.

Zone of temperate grain ; “beer and butter” country ; similar to England. Competitor in foreign markets for the supply of Belgian manufactures, mineral and vegetable products ; “running” against England. **Supplier** to us of commodities similar to our own. **Customer** for manufactures chiefly. *Transit country.*

MINERAL.

Native.—Iron, coal, lead, zinc, millstones, slates, kaolin, fireclay, manganese, black marble, sandstones.
Manufactured.—Iron goods, cutlery, nails, stone quarrying, bricks, tiles, porcelain, machinery, firearms.

VEGETABLE.

Solid.—Corn.
Liquid.—Beer (*Faro*).
Structural.—Oak.
Tanning.—Oak-bark.
Textile.—Flax, hemp.
Fibrous Manufactures.—Linen and hemp goods and cambric (Ghent),—cotton goods (Brussels and Malines).
Various Industries.—Sugar-refining, cultivation of clover for seeds.

ANIMAL.

Solid Food.—Rabbits (Ostend), cattle, butter, Limburg cheese.
Various Industries.—Lace and carpets (Brussels), woollen goods.

FRANCE.

“*Beer and butter*” country, merging into the “*wine and oil*” region. **Wheat and maize zones. Competitors** for similar goods with England for supply and demand. **Suppliers** of all essentials not procurable in our own zone. **Customers** for manufactures and native produce. **Similar to England only in part.**

MINERAL.

Native.—Gypsum, iron, coal, lead, salt, marbles, Caen limestone, copper, bismuth, manganese, chromium, millstones, slates, coprolites, jet, amber, peat, kaolin, paraffin shales, alum, sandstones.—*Mineral waters* carbonated at Vichy and St. Galmier ; sulphurated at Barèges.

Manufactured.—Fancy articles, trinkets, iron ships, Creusot's ironwork, jewellery, anchors, cutlery, hardware (St. Etienne), pottery, glass-work, porcelain (Sevres and Limoges), clocks, watches, saltpetre bed, prepared by mixing manure rich in ammonia with earth rich in potash.

VEGETABLE.

Solid —Wheat, plum, truffle of Perigord, olive, apple, pear, apricot, orange, beetroot sugar, fig, maize, onion, + barley, walnut, chestnut, + cherry.

Liquid.—Wines (Burgundy, Bordeaux, Roussillon, Rhône, Champagne), cognac, cider, liqueurs, vinegar, verjus.

Spices and Seasonings.—Aniseed, common seasonings.

Medicines and Narcotics.—Linseed, chamomile, tobacco, + poisons (as above).

Gums and Resins.—Pitch, turpentine, tar.

Oils.—Olive, unseed, rape, colza, walnut, + aniseed, + lavender, and other perfumes.

Structural.—Fir, beech, oak, &c.

Tinctorial.—Alkanet root, safflower, woad, madder.

Textile.—Hemp, flax.

Fibrous Manufactures.—Linen, cotton goods, ribbons, lace, hemp cloth, millinery, dresses.

Various Industries.—Fuller's teazel, cork, crystallised fruits, bonbons, confectionery, costly toys, soaps, cosmetics, scents, pomatums, toilet powders.

ANIMAL.

Various Industries.—Woollen goods (North), silk goods (South), lace, ribbons, gloves, shoes, dresses, wigs.

Textile.—Silk, human hair.

Various.—Pigs' bristles, human hair.

Wax.—Wax (South).

Solid Food.—Poultry, sardines, honey, oysters, eggs, butter, Camembert cheese.

GERMANY.

"Beer and butter" country, touching in extreme limits the "wine and oil" regions. Competitors in all markets for goods and earth-gifts,—manufacturing and alimentary essentials,—both for purchase and supply. Customers for manufactured articles. Suppliers of earth-gifts and manufactures. In all commercial points very similar to England. Competitors of England mainly in the northern and mid-sections; suppliers in the southern parts.

MINERAL.

Native.—*Lithographic stones*, salt, antimony, bismuth, gypsum, mercury, iron, copper, zinc (South),—*lead, copper, iron*, coal, cobalt, arsenic, zinc, tin, silver, chromium, topaz, *jet, amber, peat*, alum, kaolin, slates, millstones, *nickel, bismuth, boracite, salt*, fluor spar, sulphur, *basalt, greenstone, hones* (Centre and North).—*Mineral waters*: carbonated (with magnesia, soda, &c.) at Baden, Carlsbad, Seltzer, Pullna, Friedrichshalle, Apollinaris; sulphurated at Aix-la-Chapelle.

Manufactured.—Iron, copper, zinc, and brass work, *guns and machinery* (especially Krupp's at Essen), glass, *porcelain* (Dresden), *muskets, swords*, cheap cutlery, watches, soap, needles, machinery (Saxony), *vitriol, Prussian blue, chemicals*, saltpetre beds.

VEGETABLE.

Solid—Barley, peas, beans, lentils (North),—*wheat*, oats, rye, buck-wheat, beet-sugar, saurkraut (North and South),—*chestnut*, potato, sago, walnut, cherry (South).

Liquid.—Beer (Strasbourg, Munich), wines (Rhine, Moselle, and Tauber), *kirschwasser* of Black Forest.

Spices and Seasonings.—Coriander and aniseed, caraway seed, white mustard, common seasonings.

Medicines and Narcotics.—Linseed, chamomile, tobacco, + poisons (as above).

Gums and Resins.—Pitch, tar.

Oils.—Caraway, anise, peppermint, thyme, linseed, rape, walnut, hazelnut, colza, bechnut, + lavender and Eau-de-Cologne.

Structural.—Fur, pine (Black Forest, Harz), + beech, oak, walnut tree.

Tanning—Oak-bark.

Tinctorial.—Alkanet root, woad, madder.

Textile.—Hemp, flax.

Fibrous Manufactures.—Linen and cotton goods, linen yarn (Silesia and Alsace-Lorraine),—flax goods (Silesia), paper.

Various Industries.—Fuller's teazel, toys, wooden clocks, charcoal, peat, and tinder, pearl-ash (Black Forest), shipbuilding (free towns), book and printing trade (Saxony), tobacco manufactories, sugar-refining, cotton-spinning, amber goods.

ANIMAL.

Various Industries.—Woollen and silk goods of Saxony and Silesia.

Textile.—Wool, human hair.

Skins, Antlers, &c.—Pigs' and boars' bristles, quill-pens, antlers of deer, human hair, hides.

Oil and Wax.—Beavers' castoreum, wax.

Solid Food.—Butter, salt meat, honey, cattle, sheep (South), bacon, swine, hams of swine and boar.

RUSSIA.

"Boreal zone," or region of "northern grains;" temperate grains, "beer and butter;" maize, "wine and oil," in gradations from north to south. Industrial activity not very marked. *Industries heavily "protected."* Suppliers of alimentary and manufacturing essentials. Competitors in foreign markets for the purchase of manufacturing requirements, and for the sale of manufactured articles. Customers for manufactures. **Similar to England only in part.**

MINERAL.

Native.—Iron, alum, gold, lead, copper, platinum, petroleum, naphtha, coal, diamonds, topaz, saltpetre, sulphur, silver, iridium, mica plates, rock-salt (Poland), briny lakes (Lower Volga).

Manufactured.—Iron and copper smelting (Perm), firearms, swords, cutlery, ironwork (Tula), glass, porcelain, soap, jewellery.

VEGETABLE.

Solid.—Wheat, rye, oats, barley, beetroot sugar, buckwheat.

Liquid.—Vodka, mouchamore, spruce beer, spirits of juniper berries.

Spices and Seasonings.—Common seasonings.

Medicines and Narcotics.—Linseed, + poisons as above.

Gums and Resins.—Pitch, tar.

Oils.—Linseed.

Structural.—Timber and deals—pine, fir, birch (North), oak, elm, lime (Centre).

Textile.—Hemp, flax, bast of lime-tree.

Fibrous Manufactures.—Cordage, sail-cloth, bast bags, bast ropes and twines.

Various Industries.—Pearl-ash, bast mats.

ANIMAL.

Various Industries.—Leather, brushes.

Textile.—Wool, human hair.

Skins, Furs, Feathers, Antlers, &c.—Furs (sable, bear, wolf, fox, deer), down, feathers, horse-hair, cider down, quills, hides, horns, hoofs, antlers, bristles, skins.

Oil and Wax.—Wax, oils (whale and seal), tallow, castoreum.

Solid Food.—Cattle, sheep, swine, fish, sturgeon (with caviare and isinglass), honey.

SWITZERLAND.

An intermediate zone; butter and cheese; wine also; dependent on outside help for manufacturing products. **A** supplier to England of advanced products and manufactures; **a customer** for manufactured articles; and **a competitor** in foreign markets for purchase and sale of alimentary and manufacturing essentials. **Similar to England in great measure.**

MINERAL.

Native.—Granites, sandstones, rock-salt at Bex, asphalt (Val de Travers), sulphur, jet, limestone, alabaster, gypsum, iron (in Jura), nickel, cobalt.
—Mineral waters (sulphureous) at Louèche.
Manufactured.—Hardware, iron and copper work, machinery, watches and musical boxes.

VEGETABLE.

Solid.—Fruit abundant in valleys (apple, walnut, cherry, chestnut, &c).
Liquid.—Wines of La Côte, Neuchatel, Muscat of Valais, + absinthe of Neuchatel, and Kirschwasser.
Spices and Seasonings.—Common seasonings.
Medicines.—Chamomile, borage, + poisons as above.
Gums and Resins.—Pitch, turpentine.
Oils.—Beechnut, walnut, and linseed.
Structural —Timber—pine, fir, beech, &c.
Textile.—Hemp.
Fibrous Manufactures.—Cotton-weaving.
Various Industries.—Artistic wood-carvings and toys, charcoal, potash.

ANIMAL.

Various Industries.—Silk-weaving, lace.
Skins, Furs, Feathers, Ivory, Antlers, &c.—Chamois' horns and leather.
Solid Food.—Gruyère cheese, butter, honey.

AUSTRO-HUNGARY.

Temperate and warm-temperate grains. *Not so much a competitor as a supplier of England; customer for manufactures; a competitor in foreign markets for the purchase and sale of alimentary and manufacturing necessities. Industries heavily "protected."*

MINERAL.

Native.—Silver, lead, tin, graphite, baryte, bismuth, cobalt, arsenic, lignite, jet, amber, sapphire, topaz, garnet, nickel, alum, *Balin infusorial earth* (Austria—Bohemia), salt, iron, mercury, copper, silver, zinc, gold, soda, borax, coal, opal, beryl, nickel, arsenic, lead, *antimony*, natron, heavy spar, *glauber salt*, *Epsom salt*, *manganese* (Hungary—Transylvania).—*Mineral waters*: alkalo-saline at Huniadi Janos; carbonated at Siedlitz.

Manufactured.—Bar iron, castings, rails, sheet and plate iron, knives, scythes, glass, porcelain, steel and iron factories, *saltpetre beds* of Hungary, gold and silver wares, chemicals, gunpowder.

VEGETABLE.

Solid.—Wheat, rye, millet, *potato sago*, maize, *flour* (Danube plain.)

Liquid.—Beer (Vienna and Pilsen), *wines* (Tokay, Karlovitz).

Spices and Seasonings.—Common seasonings.

Medicines and Narcotics.—Tobacco, + poisons (belladonna, &c., as above).

Oils.—Olive-oil (South).

Structural.—Timber (fir, pine, oak, &c.), Bohemia—Transylvania.

Tanning.—Gall-nut, valonia oak.

Textile.—Flax and hemp (Hungary).

Fibrous Manufactures.—Only flax and hemp goods for home use.

Various Industries.—Potash, *pearl-ash*, saw-mills, *potato sago*, *confectionery* (in Austria), amadou tinder.

ANIMAL.

Various Industries.—Woollen goods (Moravia), leather.

Textile.—Wool, merino, silk (South).

Antlers, &c.—Hoofs, horns, antlers.

Food.—Sheep, cattle in the Danube plain.

SPAIN AND PORTUGAL.

"Wine and oil" countries; *temperate* and *warm-temperate* grains. Chiefly suppliers to England of earth-gifts; *manufactures mainly supplied from outside*; a **competitive market** for the supply of manufactured goods. Exports, principally raw materials; imports, manufactures. Mainly, dissimilar to England.

MINERAL.

Native.—Mercury, lead, iron, silver, salt hills, copper, arsenic, saltpetre, tin, platinum, antimony, manganese, jet, zinc, phosphatic nodules, graphite, sulphur, salt, Epsom salt, drawing-slate (East), — salt of salinas, asphalt (West), lead (Azores).

Manufactured.—Toledo hardwares (*swords, &c.*), jewellery, porcelain, iron-ware, earthenware, glass, bricks, refined petroleum, gunpowder (Spain), armour, porcelain, earthenware, copper and tin ware, soap, glass, jewellery, *precious stone cutting*, shipbuilding (Portugal).

VEGETABLE.

Solid.—Olive, fig, Barcelona nut, wheat, rye, raisin, orange, almond, chick-pea, chestnut, grape, lemon, melon, onion (East), —grape, orange, fig, chestnut, olive, lemon, onion (West), —pine-apple, orange (Azores).

Liquid—Malaga, Jerez, or sherry, Alicante (East), Oporto, or port wine (West).

Spices and Seasonings—Aniseed (East),—common seasonings.

Medicines.—Linseed, liquorice (East),—+ poisons as above (East and West).

Oils.—Olive, linseed, hazelnut, aniseed, caraway (East),—olive (West).

Structural.—Various.

Tinctorial.—Safflower, madder (East and West).

Various Industries.—Cork, from cork-oak (East and West),—barilla, soda (salsola kali) (East).

ANIMAL.

Various Industries.—Morocco leather (East).

Textile and Tinctorial.—Silk and wool (merino) (East and West),—cochineal (East).

Antlers, &c.—Antlers, porcupine-quills, (East).

Solid Food.—Sardines, tunny fish (West),—honey.

ITALY.

“Wine and oil” region; *warm-temperate* and *sub-tropical* grains. Mainly a supplier of essentials to England, and a customer for manufactures. Exports, chiefly earth-gifts and specialties; imports, manufactured goods. A competitive market. Dissimilar to England.

MINERAL.

Native.—Sulphur, Carrara marble, borax, pumice, alum, arsenic, sal ammoniac, pouzzolane, serpentine, saltpetre, whetstone, iron, lead, antimony, manganese, gypsum, lignite, petroleum, amber, trass, tufa, talc, ochres, drawing-slates, statuary and verd antique marbles (Carrara, &c.).
Manufactured.—Florence porcelain, Venice beads, mosaics, musical strings, glass, soap, statuary, castings in plaster, majolica ware, brass-work, chemicals, gunpowder, jewellery, nails, pins.

VEGETABLE.

Solid.—Macaroni, vermicelli, olive, orange, lemon, corn, carob bean, grape, apricot, almond, fig, chestnut, truffle, morel, raisin, rice, melon, hazelnut, walnut.
Liquid.—Marsala, Falerno, Lachryma Christi, Vermouth.
Spices and Seasonings.—Coriander and aniseed.
Medicines.—Linseed, liquorice, + poisons as above.
Gums and Resins.—Turpentine.
Oils.—Olive, linseed, anise, and caraway, + perfumes.
Structural.—Walnut, oak, &c.
Tanning.—Oak-bark.
Tinctorial.—Safflower, madder, sumach.
Textile.—Hemp, flax.
Fibrous Manufactures.—Paper.
Various Industries.—Leghorn hats, orris-root for violet powder, cork, fuller's teal, potash.

ANIMAL.

Various Industries.—Silk goods, straw-platts, spun silks, imitation cameos, coral.
Textile.—Silk, wool.
Skins, &c.—Porcupine-quills, coral.
Wax.—Wax.
Solid Food.—Anchovies, Gorgonzola cheese.

TURKEY AND GREECE.

Warm-temperate and sub-tropical grain zone. Suppliers to England of alimentary and manufacturing essentials. **Competitive markets, but not competitors.** Earth-gifts valued in manufactured goods. **Dissimilar to England.**

MINERAL.

Native.—*Petroleum*, gold, copper, zinc (North), *copper, silver* (Centre), salt, alum (South), *statuary marble* (Paros).
Manufactured.—Pottery, soap (Crete), *firearms, weapons*, earthenware (Turkey), shipbuilding, cutlery, firearms, earthenware, pottery, *gold and silver embroidery* (Greece).

VEGETABLE.

Solid.—Wheat, rye, millet, maize (North),—*fig, olive*, corn, date, almond, chestnut, lemon, melon, currant (Centre),—*currant, orange, dried fruit* (South).
Liquid.—Cretan and Chios wines, *Maraschino* (South).
Spices and Seasonings.—Common seasonings.
Medicines and Narcotics.—*Linseed, opium*, tobacco (Centre),—tobacco (South),—+ poisons as above (South and Centre).
Gums and Resins.—Gums (Centre and South).
Oils.—*Attar of roses*, linseed, olive (Centre),—*olive* (South).
Structural.—Fir and pine, beech (North),—*boxwood*, oak (Centre and South).
Tanning.—*Valonia oak, gallnut* (Centre),—valonia oak (South).
Tinctorial.—*Madder*, safflower, yellow berries (South and Centre).
Textile.—Cotton, flax (Centre),—cotton (South).
Various Industries.—Tobaccos (Centre and South).

ANIMAL.

Various Industries.—Turkey *carpets*, spun silks, morocco leather, *sandals*, tanned skins, *sponge and coral*.
Textile.—Wool, goats' hair (North),—*silk and wool* (Centre and South).
Skins, &c.—Turtle-shells (South),—*raw skins* (Centre),—*coral and sponges* (South).
Wax—*Wax* (Centre and South).
Solid Food.—Cattle, swine, *honey* (North and Centre),—sheep (North chiefly),—turtle and *honey* (South).

ASIA.

NORTH AND CENTRAL ASIA.

235. "Boreal zone," graduating to the sub-tropical. *Solely suppliers and customers.* Notice; industrial activity really *nil.* **Dissimilar to England.** *With England very little trade direct*; effect on English commerce mainly through Russia.

(a) **Siberia and Kamtschatka**; (b) **West Turkestan and Caucasus.**

MINERAL.

Native.—Diamonds, gold, salt, silver, iron, copper, malachite, asbestos, talc, graphite, lead, glauber salt, marbles, sulphur springs, jasper, ruby, emerald, beryl, topaz, amethyst, mica plates (a),—salt, lapis lazuli, ruby, sapphire, asphalt, naphtha (b).

Manufactured—Precious stones and jasper-work (Bokhara, in West Turkestan),—swords (Caucasus).

VEGETABLE.

Solid.—Rice, oats, European fruits, with hazelnut (b).

Medicines and Narcotics.—Tobacco (Caucasus), rhubarb (Turkestan).

Structural.—Coniferæ (a).

Tinctorial.—Indigo (Caucasus).

Textile.—Cotton (Caucasus).

Fibrous Manufactures.—Few cotton stuffs (Turkestan).

ANIMAL.

Various Industries.—Few silk stuffs (Turkestan).

Textile.—Silk (Turkestan and Caucasus), wool (Turkestan).

Skins, Furs, Ivory, &c—Furs and skins (bear, wolf, fox, squirrel, beaver, glutton, lynx, sable, ermine, polecat, weasel, hare, glutton, badger, deer, reindeer, elk (a),—mammoth ivory (North Siberia).

Wax.—Castoreum (Siberia).

Solid Food.—Broad-tailed sheep (Turkestan), dried fish (Kamtschatka), sturgeon, caviare, isinglass (Siberia).

Liquid Food.—Milk of sheep, goat, ass, cow, mare (koumiss), camel.

CHINESE EMPIRE.

Zone of *hardy grains*, merging into *sub-tropical growths*.
 Commerce very restricted; Chinese extremely exclusive.
 Great competitive market. A supplier and customer of
 England. Dissimilar generally to England; climate in parts
 similar.

(a) China, Corea, Manchuria; (b) Mongolia, Thibet,
 East Turkestan.

MINERAL.

Native.—Gold, silver, lead, mercury, tin, zinc, salt, coal, kaolin, jade, amber, ruby, alum, sapphire, topaz, lapis lazuli, white copper (pe-tung), amethyst, opal, malachite, steatite (a),—gold, silver, gems (agate), mercury (b),—borax (Thibet).
Manufactured.—Jade ornaments, porcelain, gongs, stone engravings (a).

VEGETABLE.

Solid.—Rice, orange, mango, banana, sago palm, sugar-cane, soy bean (a), barley, oats, wheat, grape, orange, &c. (b).
Liquid.—Tea (a).
Spices and Seasonings.—Ginseng root, cassia, ginger, star anise (a).
Medicines and Narcotics.—Opium, ginseng root, rhubarb, camphor (a).
Gums.—Gums (a).
Oils, Wax, Vegetable Butter and Tallow.—Sesame, camphor (a), vegetable tallow or wax.
Structural.—Bamboo, sandalwood (a).
Tinctorial.—Safflower, turmeric.
Textile.—Cotton herb and tree, hemp (a),—cotton herb and tree, hemp, flax (b).
Fibrous Manufactures.—Cotton stuffs, rice and bamboo paper, Nankin calico, calico prints (a).
Various Industries.—Calico-printing, embroidery, lacquered work, bamboo-work, wood-carvings, screen-painting (a).

ANIMAL.

Various Industries.—Flowered satins, rich silks, ivory-carvings (chessmen, &c.), crape (a).
Textile.—Silk (a),—wool, hair of Kashmir goat (b).
Skins, Furs, &c.—Skins and furs of panther, tiger, fox, wolf, sable, hare (a).
Oil and Wax.—Musk of musk-deer.
Solid Food.—Sheep (b).
Liquid Food.—Milk of sheep, goat, mare, cow.

JAPAN.

Zone of hardy grains. Similar to England. *A competitive market.* Supplier and customer of England. Imitative population. *Industries rising in importance.* In time may become a competitor with us.

(a) Japan ; (b) Kuriles.

MINERAL.

Native.—Gold, mercury, copper, iron, coal, mineral-pitch, amber, asphalt, kaolin (a),—copper, silver (b).
Manufactured.—Glass, porcelain, iron-work, steel-work, optical instrument clocks (a).

VEGETABLE.

Solid.—Sugar-cane, edible seaweed, loquat, shaddock, melon, false sago, and European rosaceous fruit (a).
Liquid.—Tea (a).
Spices and Seasonings.—Star anise (a).
Medicines.—Camphor (a).
Gums and Resins.—Vegetable pitch, varnish (a).
Oils.—Camphor (a).
Structural.—Beech, ash, pine, elm, maple, Japanese cedar, bamboo (a).
Textile.—Cotton (a), soft rush.
Fibrous Manufactures.—Rice-paper, cotton goods (a).
Various Industries.—Japanned and lacquered wares, fancy articles bamboo fabrics, soft-rush mats and chair-bottoms (a).

ANIMAL.

Various Industries.—Silk fabrics.
Textile—Silk (a).
Skins, Furs, &c.—Furs (sea-otter, &c.) (Kurile Islands).
Solid Food.—Swine, sea-slug (a),—fish (a, b).
Liquid Food.—Milk of sheep, goat, mare, cow.

ASIA MINOR AND MESOPOTAMIA, OR TURKEY IN ASIA.

Sub-tropical and tropical zone. Grains of the temperate zone on the higher lands. **A supplier** of earth-gifts and specialties. **A competitive market.** Industrial life practically dead. **Dissimilar to England.**

MINERAL.

Native.—Salt, copper, petroleum, amber, bitumen, asphalt, coal, ironstone, silver, soda; white, green, and black marbles, hones, alum, jet, meerschäum, asphalt (Dead Sea).

Manufactured.—Gold and silver embroidery, swords, and cutlery (Asia Minor).

VEGETABLE.

Solid.—Fig, raisin, wheat, barley, oats, truffle, olive, grape, pomegranate, orange, lemon, date, carob bean, dried grapes, &c.

Liquid.—Tenedos red wine, coffee.

Medicines and Narcotics.—Tobacco (Latakia), opium, asafoetida, storax.

Gums and Resins.—Chian mastic, frankincense, asafoetida, turpentine, gum arabic, storax.

Oils.—Olive, sesame, aniseed, rose.

Structural.—Boxwood, cedar of Lebanon, oak.

Tanning.—Valonia bark, gall-nut.

Tinctorial.—Madder.

Textile.—Cotton.

Fibrous Manufactures.—Cotton cloths.

Various Industries.—Charcoal.

ANIMAL.

Various Industries.—Carpets, silk goods, sponge-fisheries, Turkey leather.

Textile.—Silk, Angora goats' hair, or mohair.

Ivory, &c.—Sponges, coral.

Wax.—Wax.

Solid Food.—Game, honey.

Liquid Food.—Milk of sheep, goat, ass, mare, cow, camel, and dromedary.

PERSIA.

Zone of sub-tropical and tropical growth. An increasing competitive market. A supplier of England, raw materials and specialties; a customer for manufactures. A "passive" population, but inclining towards greater industrial activity. Dissimilar to England.

MINERAL.

Native.—Turquoise, sal ammoniac, naphtha, amethyst, ruby, lapis lazuli, amber, sulphur, saltpetre, borax, copper, lead, marbles, salt.
Manufactured.—Daggers, cutlery, swords, glass, pottery, copperware, gold brocade, firearms.

VEGETABLE.

Solid.—Rice, grape, pomegranate, date, sugar-cane, + best European fruit (peach, &c.).
Liquid—Shiraz wine.
Medicines and Narcotics.—Asafœtida, tobacco (Shiraz), myrrh.
Gums and Resins.—Myrrh, asafœtida.
Oils.—Attar of roses.
Structural.—Various.
Tanning.—Gall-nut.
Tinctorial.—Safflower, madder, yellow berries, gall-nut.
Textile.—Cotton.
Fibrous Manufactures.—Cotton stuffs.
Various Industries.—Reed pens.

ANIMAL.

Various Industries.—Shawls, fine woollen stuffs, hand-made carpets, silk stuffs, leather, pearl and coral fishery.
Textile.—Silk, wool, goats' hair.
Skins, &c.—Skins, pearls of Persian Gulf, coral.
Oil and Wax.—Musk of musk-deer, ambergris of sperm whale.
Solid Food.—Sheep.
Liquid Food.—Milk of sheep, goat, ass, mare, cow, camel.

AFGHANISTAN.

"Wine and oil" country, merging into the rice zone. **A** supplier of earth-gifts; a customer of England through India. "Passive" traders as a rule. Transit country. Important in connection with Indian trade, for distribution. **Dissimilar** to England.

MINERAL.

Native.—Iron, lapis lazuli, sapphire, ruby, gold, copper, rock-salt.
Manufactured.—Swords and matchlocks.

VEGETABLE.

Solid.—Rice, wheat, oats; European fruits (fresh and dried).
Spices and Seasonings.—Ginger.
Medicines.—Asafetida.
Gums and Resins.—Asafetida.
Oils.—Attar of roses.
Tinctorial.—Madder, turmeric.
Fibrous Manufactures.—Cotton stuffs.

ANIMAL.

Various Industries.—Coarse woollen stuffs, felt for tents.
Textile.—Wool, goat and camels' hair.
Skins, Furs.—Various furs.
Solid Food.—Sheep.
Liquid Food.—Milk of sheep, goat, ass, mare, camel.

INDIA.

Zones varying from wheat to rice. **A** competitive market. *A* supplier, customer, and competitor of England. Native traders "passive." Settlers "progressive." **Similar, and dissimilar, to England in parts.** Valued earth-gifts. Industrial activity advancing.

MINERAL.

Native.—Gold (Mysore),—salt, (Punjab),—coal, saltpetre, topaz, beryl, opal, amethyst, copper, soda (India),—graphite and diamonds, ruby, sapphire, cat's-eye, platinum, mercury, salt (Ceylon).

Manufactured.—Brasswork, diamond-cutting, jewellery, swords, matchlocks, filagree work.

VEGETABLE.

Solid.—Rice, maize, banyan fig, mango, banana, sugar-cane, wheat, date, millet, bread-fruit, batata, pine-apple, melon, guava, mangosteen, shaddock, orange, cocoa-nut (Ceylon), jaggery (or sugar of Palmyra palm), chick-pea.

Liquid.—Palm wine or taree (of Palmyra palm), tea, rum,—coffee (Ceylon). *Spices and Seasonings*.—Long pepper, ginger, cardamom, cinnamon of Ceylon, star anise.

Medicines and Narcotics.—Opium, betelnut, tobacco, cinchona, asafoetida, castor-oil, nux vomica, cluirus (narcotic resin of hemp), gunyah (smoking hemp).

Gums and Resins.—Gamboge (Ceylon), frankincense, asafoetida, benzoin, dragon's-blood.

Oils, Wax, Vegetable Butter and Tallow.—Cocoa-nut oil (Ceylon),—linseed and castor oils, sandalwood perfume, pine-tallow, kokum butter, galam or Nipal butter (purest), epie oil or butter, ilpa oil or butter.

Structural.—Ceylon ebony, rattan or cane, teak, bamboo, banyan-tree, sandalwood, satinwood, snakewood.

Tanning.—Catechu.

Tinctorial.—Gamboge, madder, indigo, lac dye (of coccus lacca), red sanders-wood, turmeric, safflower, myrobalans, dragon's-blood.

Textile.—Cotton herb, shrub, and tree; jute (for gunny-bags), flax, hemp, cocoa-nut fibre or coir.

Fibrous Manufactures.—Muslins of Dacca, pattern-coloured kalicot, gunny-bags of jute, cotton-cloths.

Various Industries.—Rattan or cane goods, bamboo fabrics, cigars (Trichinopoly).

ANIMAL.

Various Industries.—Silk fabrics and carpets (Mooltan). pearl-fishery (Ceylon), shawls (Kashmir), gold brocade (Delhi).

Textile and Tinctorial.—Silk, Kashmir, goat wool, lac dye + (of coccus lacca).

Skins, Furs, Feathers, Ivory, Antlers, &c.—Tusks of elephant, pearls (Ceylon). antlers, hides of gavial, buffalo, elephant, and rhinoceros, feathers, skins of tiger, deer, &c., horns of rhinoceros.

Oil and Wax.—Civet perfume, wax, ambergris.

Liquid Food.—Milk of sheep, goat, ass, mare, cow.

Solid Food.—Honey

ARABIA.

Tropical zone. Industrial activity non-existent. Traders "passive." Dissimilar to England. A competitive market. A supplier of earth-gifts; a customer for manufactures.

MINERAL.

Native.—Turquoise, ironstone, saltpetre.

Manufactured—Glazed earthen jars, gunpowder, arms, and cutlery.

VEGETABLE.

Solid.—Maize, date, tamarind, *samh* (reddish farinaceous seeds of Bedouins), peach, apricot, cocoa-nut, sugar-cane.

Liquid.—Moka coffee.

Medicines and Narcotics.—Aloes, senna, + hashash or narcotic hemp, myrrh, storax.

Gums and Resins.—Frankincense, myrrh, storax, aloes, gum arabic.

Oils.—Perfumes.

Tinctorial.—Indigo.

Textile.—Cotton.

Various Industries.—Reed pens, &c.

ANIMAL.

Various Industries.—Turbans, coral-fishing.

Textile.—Camel and goats' hair.

Ivory, &c.—Coral.

Oil and Wax.—Civet perfume.

Solid Food.—Sheep.

Liquid Food.—Milk of sheep, goat, ass, mare, cow, dromedary.

INDO-CHINA.

Tropical zone. Most valuable earth-gifts. A supplier of England; also a customer. A competitive market. Industrial activity hardly exists. "Passive" traders. Dissimilar to England.

(a) Tonquin, Anam, Upper Cochin, Burmah, Pegu; (b) Lower Cochin, Siam, Cambodia, Malacca, Straits Settlements.

MINERAL.

Native.—*Petroleum, naphtha, ruby, sapphire, gold, copper, lead, iron, coal, amber, jade, silver* (a),—*tin, gold, silver*, and many other metals very abundant (b).

Manufactured.—Unglazed earthenware, *filagree-work*, cutlery, *swords, spears*, carpenters' tools (a and b).

VEGETABLE.

Solid.—*Rice, maize, sugar-cane, sugar palm, pine-apple*, ground-nut, pomegranate, melon, durian (a),—*rice, tapioca, sugar-cane, maize, sago, pine-apple, pomegranate, ground-nut, melon, durian* (b).

Liquid.—*Tea* (a).

Spices and Seasonings.—*Cinnamon, cardamom* (a),—*pepper* and other spices (b).

Medicines and Narcotics.—*Tobacco, betelnut* (a, b), *Tonquin bean* (a).

Gums and Resins.—*Gums, varnish* (a), *gums (gamboge, gutta-percha), varnish* (b).

Oils.—*Ground-nut, perfumed eaglewood* (a),—*ground-nut* (b).

Structural.—*Finest teak, eaglewood* (a),—*teak, rose, and sapan woods, ebony, cane, bamboo* (b).

Tanning.—*Betelnut* (a, b).

Tinctorial.—*Indigo* (a),—*turmeric* (a, b),—*indigo, gamboge* (b).

Textile.—*Cotton* (a),—*cotton* (b).

Fibrous Manufactures.—*Cotton goods* (a, b).

Various Industries.—*Wood-turning, bamboo and rattan or cane goods, varnishes, Tonquin bean* (for snuff) (a, b).

ANIMAL.

Various Industries.—*Ivory wares* (a, b).

Textile.—*Silk* (a, b).

Feathers, Ivory, &c.—*Elephant tusks, feathers* (a, b).

Wax.—*Wax* (a, b).

Solid Food.—*Edible swallow's nest* (b).

Liquid Food.—*Milk of sheep, mare, cow.*

EAST INDIES.

Tropical zone. A competitive market. *Suppliers* to England. *Customers* for manufactures. **Manufacturing activity,** nil. "Passive" traders. Dissimilar to England.

(a) Sundas ; (b) Moluccas and Philippines.

MINERAL.

Native.—*Tin* (Banca),—*diamonds*, platinum, gold (Borneo),—*rich coal* at Labuan (Borneo),—*saltpetre*, sulphur (Java),—besides *iron*, *sulphur*, gold-dust, + opal, jasper, chalcedony, carnelian, onyx, agate, amethyst (viz., siliceous gems), + *borax*, *pumice*, *saltpetre*, and *antimony* (a),—amber in Philippines.

VEGETABLE.

Solid.—*Rice*, *true sago*, cassava, *maize*, *yam*, *bread-fruit*, pine-apple, arrow-root, tapioca, batata, millet, *wheat*, *papaw*, cocoa-nut, *sugar-cane*, *pomegranate*, *tamarind*, melon (a),—*rice*, *sugar-cane* (b).

Liquid.—*Coffee* (Java), tea, cacao, *rum* (a),—*palm wine* (of *Saguerus saccharifer*), coffee, cacao, *rum* (b).

Spices and Seasonings.—*Black pepper*, cloves, cassia, vanilla, *cinnamon*, ginger, aniseed, chillies, cardamom, *mustard* (a),—*nutmeg*, mace, cloves, cassia, *cinnamon*, vanilla, chillies, cardamom (b).

Medicines and Narcotics.—*Camphor-tree*, betelnut, tobacco, rhubarb, benzoin, opium, + *nux vomica* (a),—*tobacco* (b).

Gums and Resins.—*Gutta-percha*, *indiarubber*, gamboge, benzoin.

Oils, Wax, Vegetable Butter and Tallow.—*Macassar-oil* (of the badean), cocoa-nut, sesame, linseed, anise, camphor (of tree), *castor-oil*, Java tallow, gutta-podah wax (a),—*cocoa-nut*, sesame (b).

Structural.—*Fine ebony*, cane, *ironwood*, *sapanwood*, cedar (b), the above timbers + *teak* + *niaouli-tree* (a).

Tanning.—*Betelnut* (a).

Tinctorial.—*Indigo*, *turmeric*, *arnotto*, *sapan*, gamboge (a).

Textile.—*Cotton*, Manilla hemp, *soft rush* (a),—*Manilla hemp* (b).

Fibrous Manufactures.—*Manilla muslins* (of Manilla hemp) (b).

Various Industries.—*Marking-nut*, rattans or cane goods, *soft-rush mats* and *chair-bottoms* (a),—*cigar-making* (Manilla in Philippines), *Manilla hats* (of Manilla hemp) (b).

ANIMAL.

Feathers, Ivory, &c.—*Tortoise-shell*, *feathers*, *elephants' tusks*, rhinoceros' horns (a),—*pearls*, feathers.

Oil and Wax.—*Turtle-eggs' oil* (a), *ambergris* (a, b).

Solid Food.—*Tortoise*, Celebes' *edible nest* (a).

Liquid Food.—Milk of sheep, goat, mare, cow.

AFRICA.

SOUTH AFRICA.

236. Southern pasture zone. By isotherms,—*equivalent to the Mediterranean shores*; temperature lessens on the higher land; equable throughout. **Customers** of England for nearly all manufactured goods and implements. **Suppliers** of raw material and first products. **Pastoral and agricultural colony.** Manufactures not yet *established*. “*Opening out*” the colony is the chief occupation.

(a) Cape, Natal, Orange; (b) Transvaal, Griqualand, &c.

MINERAL.

Native.—Copper, gold, diamonds, graphite (a),—gold, diamonds, copper (b).

VEGETABLE.

Solid.—Wheat, oats, maize, grape, cane-sugar, + European fruits, + tropical fruits (plantain, tamarind, guava).

Liquid.—Wine, coffee

Medicines and Narcotics.—Aloes, tobacco (a), bhang, or smoking hemp of Bushmen.

Gums and Resins.—Aloes (a).

Tinctorial.—Orchella weeds (a).

Textile.—Hemp, flax, cotton.

ANIMAL.

Textile.—Wool (a).

Skins, Feathers, Ivory, Antlers, &c.—Ostrich-feathers, tusks (a, b),—hides, skins, horns (a).

Liquid Food.—Milk of sheep, goat, ass, mare, or cow.

Solid Food.—Sheep, cattle (a, b).

CENTRAL AFRICA.

An intermediate zone. Region of great heat. **Customers** for textiles and Birmingham goods, *through the coast emporiums*. **Suppliers** of raw materials. Civilisation backward. Transit by caravan. Commercial dealings through intermediaries on the coasts. **Barter** rather than extended commerce.

(a) Nigritia; (b) Sahara.

MINERAL.

Native.—Sulphur mountains (a),—gold dust, natron, salt blocks (b).

VEGETABLE.

Solid.—Date, maize (b).

Liquid.—Palm wine (a).

Structural.—Ebony, rosewood (a), African teak (b).

Textile.—Palm fibres (a).

Fibrous Manufactures.—Blue cloths in Houssah (a).

ANIMAL.

Feathers, Ivory, &c.—Ivory (a),—ostrich-feathers (a, b).

EAST AFRICA.

Zone of tropical growth. *A coast trade.* **Customers** for textiles and other manufactured goods. **Suppliers** of earth-gifts. Native manufactures very small. **Traders, chiefly settlers.** Natives passive. **Prospect of enlarged trade by opening up the inland tracts.**

Zanzibar, Mozambique.**MINERAL.**

Native.—Coal, gold-dust, gum copal.

Manufactured.—Pottery (Zanzibar).

VEGETABLE.

Solid—Sugar-cane, corn, ground-nut, yam.

Liquid.—Coffee.

Spices and Seasonings.—Pepper, cloves.

Medicines.—Senna.

Gums and Resins.—Arabic and copal gums, indurubber.

Oils.—Ground-nut.

Tinctorial.—Indigo.

Textile.—Cotton shrub and tree.

Fibrous Manufactures.—Cotton goods.

ANIMAL.

Skins, Feathers, Ivory, Antlers, &c.—Ostrich-feathers, ivory, hides.

Oil and Wax.—Civet perfume—wax.

WEST AFRICA.

Tropical zone. Customers for manufactured articles. **Suppliers** of earth-gifts. *Native manufactures small.* Prospect of enlarged trade good, by the Congo. Mr. H. M. Stanley tells of many earth-gifts available up this river, which is navigable for a long distance. **Trade conducted by Europeans.** *Natives passive.*

(a) Benguela, Angola, Lower Guinea ; (b) Upper Guinea,
Liberia, Senegambia.

MINERAL.

Native.—Iron, copper, gum copal, sulphur-mines (a),—gold-dust (b).

Manufactured.—Wrought iron (Dahomey), sword-blades, gold-working (Ashantee).

VEGETABLE.

Solid.—Ground-nut, millet, arrowroot, coffee (a, b),—sugar-cane, rice, yam, cacao (b),—banana (a).

Liquid.—Palm wine.

Spices and Seasonings.—Ginger, pepper (b).

Gums and Resins.—Indiarubber, copal, and arabic gums (b).

Oils, Vegetable Butter and Tallow.—Palm-oil, shea butter, ground-nut (a, b),—vegetable tallow (b).

Tinctorial.—Dyewoods (b).

Textile.—Cotton-tree (a, b).

ANIMAL.

Various Industries.—Ivory, hides, tortoise-shell (b),—ivory, ostrich-feathers (a).

Wax.—Wax (b).

NILE BASIN—RED SEA.

Region of greatest heat in the Old World. Customers for English manufactures. Suppliers of earth-gifts. European traders. Natives passive. Commercial movements largely transit. A competitive market in part.

(a) Egypt, Soudan; (b) Abyssinia.

MINERAL.

Native.—Syenite, nummulitic limestone, sal ammoniac, soda lakes, salt, glauber salt, marbles, alabaster, emerald, ruby, natron, nitre (a),—block-salt, silver, emerald (b).

Manufactured.—Firearms, porous water-jars, spears, gunpowder (a),—black pottery, sword-blades, cutlery, axes, spears (b).

VEGETABLE.

Solid.—Rice, maize, wheat, barley, sugar-cane, tamarind, date, doum-palm, millet, olive, coffee, banana, peas, beans, lentils.

Liquid.—Palm wine.

Medicines and Narcotics.—Tobacco, senna, myrrh, &c.

Gums and Resins.—Gum arabic (a, b),—myrrh (b).

Oils.—Sesame, linseed, attar of roses.

Structural.—Ebony, baobab (b).

Tinctorial.—Safflower, indigo.

Textile.—Cotton shrub and tree, flax.

Fibrous Manufactures.—Striped cloths, cotton-mills.

ANIMAL.

Various Industries.—Leather, *pearl* and *coral fisheries* (a, b).

Skins, Feathers, Ivory, &c.—*Hides* of crocodile and hippopotamus, ostrich-feathers, *ivory, pearls* (from off Massowah), *coral*.

Wax.—*Wax*

NORTH AFRICA.

Zone of warm-temperate and sub-tropical grain. Customers for manufactures. Suppliers of earth-gifts and specialties. European traders in chief. Much of the commercial movement is *transit* by the Arabs. A competitive market in part.

(a) Morocco, Algeria; (b) Tunis, Tripoli.

MINERAL.

Native.—*Iron, silver, lead, copper zinc, antimony, cinnabar, salt hills, heavy spar or baryte* (a),—*infusorial earth or Tripoli powder* (b),—*natron*. (South).

Manufactured.—*Pottery, gunpowder, hardware, firearms, jewellery, gold-work* (a),—*soap, pottery* (b).

VEGETABLE.

Solid.—*Date, olive, wheat, almond, fig, rice, barley, millet, orange, citron, sugar-cane, pomegranate, bitter almond* (a, b).

Liquid.—*Palm wine.*

Medicines and Narcotics.—*Linseed* (a b), *tobacco* (b).

Gums and Resins.—Several gums, as *sandarach, &c.*

Oils.—*Linseed, olive, (a, b).*

Structural.—*Mosque wood* or *sandarach.*

Tinctorial—*Saffron* (Tripoli).

Textile.—*Cotton-shrub, vegetable hair of dwarf palm.*

Various Industries.—*Cork, from cork-oak.*

ANIMAL.

Various Industries.—*Morocco leather* (Morocco and Tunis), + *fez caps, sponge and coral fisheries* (a, b), *woollen goods, burnous, silk goods* (Tunis).

Textile.—*Fine wool in all, —silk* (Tripoli).

Skins, Furs, Feathers, Ivory, &c.—*Goatskins, ivory, coral, sponges, ostrich-feathers.*

Oil and Wax.—*Wax, civet perfume.*

Solid Food.—*Cattle* (Tunis),—*honey* (a, b).

Liquid Food.—*Milk of sheep, goat, ass, mare, cow, or dromedary.*

AFRICAN ISLANDS (West).

An island trade. Warm-temperate and sub-tropical produce. Customers for manufactures. Suppliers of earth-gifts and "first" products. *Ports of call*

(a) **Madeiras**; (b) **Canaries**.

VEGETABLE.

Solid.—*Grape* (a, b),—*citron, orange, sugar-cane* (a).

Liquid.—*Wine* (a, b).

Tinctorial.—*Orchella weeds* (b),—*indigo* (a).

Various Industries.—*Barilla* (b).

ANIMAL.

Textile and Tinctorial.—*Silk, cochineal*.

Skins, &c.—*Turtle-shell*.

Solid Food.—*Cattle* (a),—*turtles* (b).

AFRICAN ISLANDS (East).

An island trade. Southern zone of warm-temperate, sub-tropical, and tropical grain, according to latitude. Customers for manufactures. Suppliers of raw materials and "first" products.

Somali, Gallas, Socotra, Mauritius, Madagascar, &c.

MINERAL.

Native.—*Iron, copper, coal, silver, amber* (Madagascar),—*gold* (Mauritius).

Manufactured.—*Jewellery, cutlery, silver and gold working* (Madagascar).

VEGETABLE.

Solid.—*Rice*, palm fruits (date, cocoa-nut),—*sugar molasses*, chiefly Mauritius.

Liquid.—Travellers' drink (Madagascar), *coffee* (Mauritius).

Spices and Seasonings.—Spices—pepper, cloves.

Medicines—Aloes (Mauritius).

Oils.—*Palm-oil* (Mauritius).

Structural.—*Valuable teak, ebony*.

Tinctorial.—*Orchella weeds* (Madagascar), dyes (Mauritius).

Textile.—Palm fibres.

Fibrous Manufactures.—Cloth of palm fibres.

ANIMAL.

Skins, Feathers, Ivory, &c.—*Ostrich-feathers*, ivory (Mauritius), *turtle-shell* (Mascarenes).

Oil.—*Ambergris* (Madagascar).

Solid Food.—*Turtles* (Mascarenes).

AMERICA.

NORTH AMERICA.

237. This chart shows zones, ranging from the boreal to the tropical. Customers for all English products. Suppliers of "earth-gifts," "advanced" products, and manufactures. A competitive market. Competitors of England in most markets, home and foreign. *Traders active. Home manufactures protected.*

(a) British North-West Territory; (b) Manitoba;
(c) Columbia.

MINERAL.

Native.—Coal (a),—copper, iron, marble, plumbago, coal, and gold (c).

VEGETABLE.

Solid.—Corn (chiefly barley) (b).
Structural.—*Fine pines* (Columbia).

ANIMAL.

Various Industries.—Trapping, hunting (a).
Skins, Furs, &c.—*Furs* (silver-fox, wolf, beaver, bear, otter, moose-deer reindeer) (a).
Oil.—*Castoreum*, seal and whale oils.
Liquid Food.—Milk of sheep, goat, ass, or cow.
Solid Food.—*Wild-fowls* (duck, goose, eider, &c.) (a),—sheep, cattle (b).

Canada and Hudson's Territory.

MINERAL.

Native.—Iron, coal, copper, gypsum, petroleum, plumbago, slates, labradorite, serpentine marble, manganese, heavy spar or baryte, lignite, basalt, silver, gold, lead, tin, lithographic stones, marbles, greenstone, salt.
Manufactured.—Soap, iron-castings, hardware, cutlery.

VEGETABLE.

Solid.—Wheat, barley, flour, oats, maple-sugar, peas, beans, lentils.
Liquid.—Beer, whisky, &c.
Gums and Resins.—Canada balsam.
Wax.—Myrtle or candleberry wax.
Structural.—Pine, bird's-eye maple, beech, larch, oak, pencil cedar, black walnut, wood.
Textile.—Hemp.
Fibrous Manufactures.—Hemp.
Various Industries.—Timber and lumber trade, shipbuilding, potash, pearl-ash.

ANIMAL.

Various Industries.—Trapping, hunting.
Skins, Furs, Feathers, &c.—Furs (squirrel, fox, beaver, racoon, marten, seal), down and feathers (turkey, goose, swan, &c.).
Oil and Wax.—Seal and whale oils, + castoreum, wax.
Solid Food.—Honey, cod, salmon, mackerel, herring, beef, cattle, pork, cheese, butter.

(a) Alaska ; (b) Greenland.

MINERAL.

Native.—Cryolite (fluoride of aluminium), graphite, asbestos (b).

ANIMAL.

Skins, Furs, Feathers, Antlers, &c.—Furs (seal, fox, reindeer), eider-down and antlers (Greenland),—sea-otter, fox, reindeer, seal (Alaska).
Oil.—Seal and whale oils.
Solid Food.—Dried fish (Alaska).

UNITED STATES.

MINERAL.

Native.—Coal and iron (Pittsburg, &c.), copper, gold, petroleum, sandstones, baryte, marbles, lead, salt, mercury, chromium, silver, zinc, Epsom salt, beryl, jet, serpentine, basalt, bergmahl, talc, graphite, jade, alum, kaolin, nitre, fluor spar, dolomite.—Sulphur springs.

Manufactured.—Ironwork, castings, glasswork, pottery, brickwork, soap, mineral oils purified.

VEGETABLE.

Solid —Wheat, flour, rice, ground-nut, arrowroot of zamia, maize, barley, millet, sugar-cane, hickory-nut, + fine grape, orange, pear, &c., in Far West.

Liquid.—Beer (chiefly Lager), whisky, and various other drinks.

Medicines and Narcotics.—Tobacco (Virginia, Maryland).

Gums and Resins.—Tar, turpentine.

Oils.—Thyme, peppermint.

Structural —Timber (bird's-eye maple, pencil cedar, black walnut), Wellingtonia (sequoia).

Tinctorial —Quercitron and indigo (South).

Textile.—Cotton-herb, hemp.

Fibrous Manufactures.—Cotton fabrics.

Various Industries.—Timber-trade, shipbuilding, huge fruit nurseries, potash, pearl-ash.

ANIMAL.

Various Industries.—Meat preparing and tinning (Chicago), fishing for pearls (California).

Textile.—Wool.

Skins, Furs, Feathers, &c.—Hides, furs, down, pearls, (California).

Oil and Wax.—Castoreum of beaver, seal and whale oils, wax, ambergris of sperm whale.

Solid Food.—Pork, bacon, beef, salt pork, fish, cheese, honey, oysters, tinned provisions (beef, salmon, lobster), ham, lard, butter.

MEXICO AND CENTRAL AMERICA.

Zone of tropical growth at sea-level; graduating through all zones, according to elevation. Customers for manufactures. Suppliers of raw material and specialties. A competitive market. Traders somewhat passive. Manufactures increasing.

Mexico.**MINERAL.**

Native.—*Silver, gold, mercury, carbonate of soda* (for smelting silver ores), copper, iron, lead, topaz, *obsidian*, asphalt, *jade, natron*, graphite

Manufactured.—*Earthen and stone ware, glass, gold and silver lace, silver ores smelting.*

VEGETABLE.

Solid.—*Maize, millet, sugar, wheat, batata, grenadilla, jambose, pine-apple, banana, cassava, yam, mango, custard-apple, guava, tamarind, plantain, grape, arrowroot, tapioca, avocado pear.*

Liquid.—*Coffee, cacao, agave* (intoxicating octli).

Spices and Seasonings.—*Vanilla, capsicum.*

Medicines and Narcotics.—*Jalap, cashew-nut, sarsaparilla, tobacco.*

Vegetable Butter.—*Cacao-butter.*

Structural.—*Mahogany*

Tinctorial.—*Logwood, indigowood.*

Textile.—*Cotton-tree, pita flax.*

Fibrous Manufactures.—*Paper.*

ANIMAL.

Tinctorial.—*Cochineal* + (of coccus cacti).

Skins.—*Hides.*

Solid Food.—*Cattle.*

Central America.**MINERAL.**

Native.—*Silver, gold, obsidian, iron, lead, mercury, marble, jasper, sulphur, salt.*

VEGETABLE.

Solid.—*Rice, maize, arrowroot, tapioca, batata, pine-apple, sugar-cane, + most of the fruits of South Mexico.*

Liquid.—*Coffee, cacao, agave* (intoxicating octli).

Spices and Seasonings.—*Vanilla.*

Medicines.—*Sarsaparilla.*

Gums and Resins.—*Gums, indiarubber, balsams.*

Vegetable Butter and Tallow.—*Cacao-butter.*

Structural.—*Fine timber* (lignum vitæ, *American cedar, mahogany*).

Tinctorial.—*Logwood, Nicaragua peachwood, indigowood.*

Textile.—*Carloduvica palmata, cotton-tree, pita flax.*

Fibrous Manufactures.—*Panama hats.*

Various Industries.—*Coquilla-nut* (ivory).

ANIMAL.

Tinctorial.—*Cochineal.*

Skins, Ivory, &c.—*Turtle-shell.*

Solid Food.—*Turtles.*

WEST INDIES.

An island trade. Zone of tropical fruits. Plantation colonies. Customers for manufactures. Suppliers of earth-gifts and "advanced" products. A competitive market, especially in the commodity, sugar.

MINERAL.

Native.—*Sulphur* (Guadeloupe and Martinique), *petroleum* (Barbadoes), *asphalt* (Trinidad), coal, copper, and salt (Cuba), salt (Curaçao), platinum (San Domingo), *phosphatic nodules* (Sombbrero).

VEGETABLE.

Solid.—*Sagar*, molasses, pine-apple, banana, wheat, arrowroot, tapioca (manioc), orange, batata, plantain, rice, yam, tamarind, pomegranate, lemon, millet, plantain, mango, guava, + other fruits of Mexico.

Liquid.—Cacao, coffee, rum.

Spices and Seasonings.—Pepper, ginger, cassia, cloves, capsicum, pimento (allspice), mace, chillies.

Medicines and Narcotics.—Tobacco, sarsaparilla, aloes (Barbadoes), castor-oil, croton-oil, cascarilla bark.

Gums and Resins.—Pitch of Trinidad, aloes.

Oils and Vegetable Butter.—Cacao-butter (Trinidad), castor and croton oils.

Structural.—Mahogany, *legnum vite*, lancewood, snakewood, American cedar, satinwood.

Tinctorial.—Logwood, indigowood, arnotto, fustic.

Textile.—Cotton-tree, cotton-shrub.

Various Industries.—Cigars (Havana), tobacco, crab's eyes, Balsa cork

ANIMAL.

Various Industries.—Pearl-fishery.

Tinctorial.—Cochineal.

Skins, Feathers, &c.—Turtle-shell, feathers, pearls.

Oil and Wax.—Ambergris, turtle-eggs' oil, wax.

Solid Food.—Turtles, honey.

SOUTH AMERICA.

All zones from the equatorial to the outskirts of the boreal. Customers for all European goods. Suppliers of "earth-gifts" and "first" products. Competitors against our colonies. Competitive markets. Traders passive in the north, but active in the south. *Manufactures spreading.* La Plata and Chili the most enterprising, followed by Brazil.

Guiana.

MINERAL.

Native.—Fine kaolin clay for pottery, agates, rock-crystal, edible infusorial clay.

VEGETABLE.

Solid.—*Sugar-cane, molasses, yam, cassava, arrowroot, tapioca, rice, maize,* + most fruits of Mexico.

Liquid.—Agave (intoxicating octli), rum, coffee, cacao, assai (cooling beverage of a palm).

Spices and Seasonings.—Cayenne, vanilla, cloves, cinnamon.

Medicines and Narcotics.—Tobacco, Tonquin bean

Oils and Vegetable Butter.—Cacao-butter, carapa oil or butter.

Structural.—Fine snake and lance wood, satinwood, &c.

Tinctorial.—Indigo.

Textile.—Cotton-tree, pita flax.

Various Industries.—Tonquin bean for snuff.

ANIMAL.

Feathers, &c.—Feathers.

(a) Venezuela ; (b) Colombia ; (c) Ecuador.

MINERAL.

Native.—Copper, coal, salt, asphalt, carbonate of soda, petroleum (a),—silver, emerald, gold, salt, nitrate of soda, copper, platinum, lead, iron (b).

Manufactured.—Pottery (Ecuador).

VEGETABLE.

Solid.—*Sugar-cane, plantain, arrowroot, tapioca*, batata, maize, *yam*, rice, + most fruits of Mexico.

Liquid.—*Cacao*, coffee, assai, agave (intoxicating).

Spices and Seasonings.—Cinnamon, vanilla.

Medicines and Narcotics.—Tobacco, *cinchona*, *ceylon*, jalap.

Gums and Resins.—Gums, resins, *indiarubber*.

Vegetable Butter.—Cacao-butter.

Structural.—*Ebony, Brazil-wood*, mahogany, snakewood, satinwood.

Tanning.—*Divi-divi*.

Tinctorial.—*Indigo, Brazil-wood*.

Textile.—*Carloduvica palmata*, cotton-shrub, pita flax.

Fibrous Manufactures.—Panama hats.

Various Industries.—Balsa, *Coquilla-nut*.

ANIMAL.

Various Industries.—Pearl-fishery.

Skins, &c.—Hides, *tortoise-shell* (Galapagos).

Solid Food.—Cattle, sheep, *tortoises*

(a) Peru ; (b) Bolivia.

MINERAL.

Native.—Silver, gold, guano, nitrates, saltpetre, mercury, copper, salt, sulphur, tin, platinum, borax, asphalt, obsidian, *cubic nitre* (a),—silver, nitre beds, diamonds, gold, mercury, borax, tin, copper, lead, iron, emerald (b).

VEGETABLE.

Solid.—*Arrowroot, tapioca, batata*, rice, maize, guava, and most tropical fruits (plantain, banana, &c. &c. ; see Mexico).

Liquid—Assai beverage, agave (intoxicating drunk from *Agave Americana*).
Seasonings.—Vanilla (a).

Medicines and Narcotics.—*Cinchona-bark, coca-leaf*, tobacco, sarsaparilla, *ipeacacuanha*, jalap.

Gums and Resins.—Gums, resins, *gum-copal* or *copal balsam*, caoutchouc.

Tinctorial.—*Brazil-wood, Nicaragua peachwood, Braziletto-wood* (a).

Textile.—*Carloduvica palmata*, pita flax.

Fibrous Manufactures.—Panama hats.

ANIMAL.

Textile.—Wool of sheep, and of guanaco, llama, alpaca, &c.

Furs, &c.—Fur of chinchilla.

Brazil.**MINERAL.**

Native.—Diamonds, gold, emerald, ruby, topaz, beryl, garnet, amethyst, copper, iron, salt, silver, platinum, saltpetre, palladium, chromium.
Manufactured.—Diamond and precious stone cutting.

VEGETABLE.

Solid.—Sugar-cane, rice, arrowroot, tapioca, wheat, sago, Brazil-nut, banana, olive, grape, maize, pine-apple, tamarind, yam, and most of the fruits of Mexico.

Liquid.—Agave (intoxicating), guarana tea, coffee, cacao, assai (nourishing and cooling drink from Euterpe oleracea).

Seasonings.—Vanilla.

Medicines and Narcotics.—Cinchona, tobacco, ipecacuanha, sarsaparilla.

Gums and Resins.—Caoutchouc, gums.

Oils, Wax, and Vegetable Butter.—Cacao-butter, wax of carnauba palm, palm-oil.

Structural.—Snakewood, rosewood, Brazil-wood, satinwood, carnauba palm.

Tinctorial.—Brazil-wood, arnotto, logwood, indigowood, Braziletto-wood.

Textile.—Cotton-tree (North), pita flax, hemp (South).

Various Industries.—Corozo and Coquilla nuts (vegetable ivory for turners).

ANIMAL.

Various Industries.—Meat-tinning (South).

Skins, Feathers, Antlers, &c.—Feathers of Rhea, toucan, parrots, humming birds; hides, horns.

Oil and Wax.—Tallow, ambergris.

Solid Food.—Jerked beef.

(a) Argentine Confederation; (b) Uruguay.**MINERAL.**

Native.—Silver, gold, nickel, copper, tin, lead, iron, coal in North-West (a),—carbonate of soda (b).

VEGETABLE.

Solid.—Algaroba bean, wheat, oats (a),—sugar-cane (b),—and most European fruits (a, b).

Liquid.—Chica from algaroba bean, yerba maté tea (a, b).

Narcotics.—Tobacco (b).

Structural.—Timber (b).

Textile.—Cotton (b).

ANIMAL.

Various Industries.—Meat-tinning and meat extract.

Textile.—Wool, hair (horse, goat) (a).

Skins, Furs, Antlers, &c.—Hides, horns (a, b),—skins, hoofs, bones, horse-hair (a).

Oil and Wax.—Tallow (a, b).

Solid Food.—Cattle, sheep, beef extract (a, b),—salted beef (a).

(a) Chili ; (b) Patagonia, Falkland.

MINERAL.

Native.—Silver, copper, coal, gold, platinum, borax, cubic nitre, Epsom salt, saltpetre, nitrate of soda (a).

Manufactured.—Earthenware jars (Chili), copperware, soap.

VEGETABLE.

Solid.—Wheat, maize, flour, oats, European fruits (fig, orange) (Chili).

Gums and Resins.—Pitch, turpentine.

Textile.—Hemp (Chili).

Fibrous Manufactures.—Hempen cloths (Chili).

Various Industries.—Charcoal (Chili).

ANIMAL.

Various Industries.—Leather (Chili).

Textile.—Wool (Chili).

Skins, &c.—Hides (Chili).

Oil and Wax.—Tallow (Chili),—seal-oil (Patagonia).

Solid Food.—Seals, penguins, and other aquatic birds (Patagonia and Falkland).

AUSTRALASIA.

AUSTRALASIA.

238. Zone of southern temperate grains, and pastures graduating to tropical produce. Customers for all English goods. Suppliers of raw material, "first" and "advanced" products. A competitive market. *Agricultural, pastoral, and mining colonies.* Great support to English commerce. Manufactures advancing. Traders active.

(a) Tasmania ; (b) New Zealand.

MINERAL.

Native.—Iron, copper, coal, tin (a),—coal, petroleum, gold, silver, iron, copper, tin, manganese, lignite, jade, sulphur (b).
Manufactured.—Soap manufacture (a).

VEGETABLE.

Solid —Grape, orange, European cereals and fruits (a, b).
Liquid.—Hops (a).
Gums and Resins —Gum (a), copal (b)
Oils.—Various oils (a).
Structural.—Porcupine, and myrtlewood, eucalyptus (a),—puriri (iron-wood), kauri (yellow pine), rimu (red pine), black birch (b).
Textile.—New Zealand flax (b).
Various Industries —Distilleries, breweries, flour-mills, timber-mills, starch and soap factories (a).

ANIMAL.

Various Industries.—Candle and soap factories, tanneries (a).
Textile.—Wool (a, b).
Oil and Wax.—Tallow (a).

(a) **New South Wales** ; (b) **Victoria**.**MINERAL.**

Native.—Gold, coal, copper, silver, lead, tin, iron, mercury, salt (a),—gold (b)
Manufactured.—Copper-smelting (a).

VEGETABLE.

Solid.—Rice, grape, maize, + fruit of South Europe, + wheat, and some tropical fruit.

Liquid.—Wine.

Narcotics.—Tobacco (a).

Gums.—Gum.

Textile.—Flax (a),—cotton (a).

Various Industries.—Tobacco-factories.

ANIMAL.

Various Industries.—Woollen fabrics.

Textile.—Wool (a).

Skins, Furs, Feathers, &c.—Sheepskins, horns, feathers, hides.¹

Oil.—Tallow, whale-oil, ambergris.

Solid Food.—Sheep, potted beef, potted mutton.

Queensland.**MINERAL.**

Native.—Gold, copper, coal, tin, iron, mercury.

VEGETABLE.

Solid.—Sugar-cane, maize, yam, rice, grape, arrowroot, + mango, guava, banana, cocoa-nut, cassava, &c. (see Melanesia).

Liquid.—Coffee.

Narcotics.—Tobacco.

Gums.—Gum.

Tinctorial.—Indigo.

Textile.—Cotton.

ANIMAL.

Various Industries.—Sheep-rearing.

Textile.—Wool.

Solid Food.—Sheep, potted beef, potted mutton.

¹ This applies generally to all the Australian colonies, but chiefly to New South Wales.

(a) West Australia ; (b) South Australia.

MINERAL.

Native.—Copper, coal, lead (a),—copper, gold, lead, iron, silver, bismuth (b).
Manufactured.—Various iron goods (b).

VEGETABLE.

Solid.—Grape, wheat, barley, oats, maize, South European fruits (lemon, &c.) (chiefly b), + fruit of Melanesia and Malaysia.

Liquid.—Wines (b).

Gums.—Gum of eucalyptus.

Structural.—100 kinds of *eucalyptus* (blue gum or fever tree), 300 kinds of leafless *acacia* ;—*casuarina*, *banksia*, *sandal*, *blackwood*, muskwood, *pinkwood*, *marsh oak*, *huon pine*, *araucaria*, *pandanus*, most of them valuable.¹

ANIMAL.

Textile.—Wool (b)

Liquid Food.—Milk of sheep, goat, ass, mare, cow.²

Solid Food.—Sheep, potted beef, potted mutton.

OCEANIA.

An island trade. Chiefly tropical. Suppliers and customers only. Competitive markets.

Melanesia—North of Australia.

VEGETABLE.

Solid.—Cocoa (single and double), bread-fruit, yam, batata, sugar-cane, sago, arrowroot, cassava, &c. (on the whole like Malaysia).

Liquid.—Coffee.

Spices and Seasonings.—Ginger, nutmeg.

Narcotics—Tobacco.

Gums and Resins—Gutta-percha.

Oils and Wax.—Camphor (tree).

Structural.—Ebony, teak, *niaouli*-tree, &c. (on the whole like Malaysia).

Tinctorial.—Indigo, sapan dye, turmeric.

Textile.—Cotton.

¹ This summary embraces, in addition to West and South Australia Queensland, New South Wales, and Victoria.

² This is applicable to all the countries mentioned above.

ANIMAL.

Skins, Feathers, &c.—*Pearls*, tortoise-shell, *feathers* (of birds of paradise), &c.
Solid Food.—Tortoise, edible bird's nest, *trepang* or sea cucumber (a holothuria).

Micronesia—North of Papua.

VEGETABLE.

Solid.—*Cocoa* (single and double), *pandany*, *sugar-cane*, fig, rice (on the whole like Polynesia).
Narcotics.—Tobacco.
Oils.—Sandalwood perfume.
Structural.—*Pandanus*, *casuarina*, sandal, &c.
Tinctorial.—Indigo.
Textile.—Cotton.

ANIMAL.

Skins, &c.—Tortoise-shell.
Solid Food.—Fish, turtles.

Islands of Central Pacific.

MINERAL.

Native.—Sal ammoniac, glauber salt (Sandwich Isles).

VEGETABLE.

Solid.—*Cocoa* (single and double), *bread-fruit*, maize, *sugar-cane*, rice, *banana*, orange, citron, pine-apple, lime, yam, *arrowroot*, melon, *plantain*, cabbage-palm.
Liquid.—Coffee, *milk of cow-tree*.
Oils and Wax.—Cocoa-nut oil, sandalwood perfume.
Structural—*Pandanus*, *casuarina*, sandal, &c.
Textile.—*Paper mulberry*, cotton, vegetable silk or pula.

ANIMAL.

Textile.—Wool.
Skins, &c.—*Nacre* (mother-of-pearl)

The preceding tables complete and confirm the two prior chapters, "Fellow-Traders," and "Rivals in Business." They give the student a bird's-eye view of the industrial resources of the Australian Colonies, together with those of Polynesia,—and the applied uses of the same. They complete our review of Nature's gifts throughout the world,—of man's influence upon them,—and of the exchanges,—(*the commutatio mercium*),—that minister to his well-being, through the length and breadth of the globe.

"Surely it is worth while, for the sake of the history of men and of nations, to study the surface of the earth in its relation to its inhabitants." This we have honestly attempted to do.

Let the student, now, dissect the charts, and state what are the alimentary, what the industrial essentials, and what the auxiliary products.

QUESTIONS.

CHAPTER I.

NECESSARIES, CONVENIENCES, COMFORTS, AND LUXURIES.

Pars.

- 1.—1. Explain why food, the means of warmth, and the means of rest are regarded as “necessaries of life.” In what respects are these necessities permanent or otherwise?
- 3 and 4.—2. How are the essential wants of mankind supplied? Distinguish between the part done *for* man by nature and the part done *by* man for himself.
- 5, 8, and 11.—3. What effects have the position and natural resources of a country upon the distribution of the workers?
- 6 and 7.—4. Describe the ordinary pursuits of a merchant, and some of the derangements to which he is subject.
- 9 and 10.—5. Show how skilled labour, applied at successive stages to the simplest “earth-gift,” may convert it into a series of new products.

CHAPTER II.

SOURCES OF SUPPLY.

- 13.—1. How are soils formed? Show how “crops flourish best where their mineral food abounds.”
- 14.—2. Enumerate the climatic zones of the globe, and describe their distinctive vegetation. What physical causes render climate variable in the same latitudes?
- 15.—3. Show how animals are adapted to the zone they inhabit, and how those adaptations minister to the service of mankind.
- 16 and 17.—4. How far do home industries depend upon raw produce from abroad? Give examples from special arts.
- 18.—5. Prove that man’s material progress is commensurate with his knowledge and his sense of inter-dependence.

CHAPTER III.

DIVISION OF LABOUR.

PARTS

- 19 and 20.—1. What is meant by “division of labour”? Give examples of the principle in the case of either the butcher, baker, shoemaker, or watchmaker, and also of the ironworker.
- 21.—2. Distinguish between the real and the nominal wages of labour.
- 22.—3. Show how intellectual labour aids in the work of production. Illustrate this as copiously as you can.
- 23.—4. Show how our physical endowments favour industrial skill.
- 24.—5. Classify labourers of as many kinds as you can, according to their occupations.

CHAPTER IV.

RURAL OCCUPATIONS.

- 25 and 26.—1. Describe the mutual dependence between the industries of town and country.
- 27 and 28.—2. Enumerate the sites and describe the character of some of our rural industries.
- 29 and 30.—3. Compare the vegetation of England with that of the continent of Europe, and give also some account of the British fisheries.
- 31.—4. Why may our mining industries be regarded as a link between urban and rural occupations?
- 5 What advantages accrue to us from the deposits of coal and iron, apart from their abundance?
6. State fully the nature of the mineral produce of England, with some of its industrial uses.

CHAPTER V.

TOWN PURSUITS, MARKETS, AND TRADE-CENTRES.

- 34 and 35.—1. Give examples, other than those in the text, of the concentration of town labourers in their own trade-centres.
- 36—39.—2. Prove how vastly foreign interchange extends the productive resources of our own country, and show how the produce of every climatic zone may contribute to supply a single retail store.

Pars.

- 40.—3. Exemplify the growth of commerce by the history of clothing.
- 41 and 42.—4. Explain the meaning of market, warehouse, entrepôt, and emporium, and show their necessity in English wholesale trade.
- 43 and 44.—5. Distinguish between commercial, manufacturing, mining and market towns, giving examples and reasons.
 - 5a. Give the succession of the great States which have led the world's commerce, and account, briefly, for the continual shifting in the past of the centres of trade.
- 45-48.—6. Trace the moral and intellectual causes that have contributed to the industrial and commercial ascendancy of England.

CHAPTER VI.

GREAT CITIES AND CAPITALS.

- 49.—1. Upon what does the existence of a commercial port depend?
What peculiar advantages does London possess to make it the chief port and emporium of the world?
- 50.—2. State the claims of London to the rank of a mining and manufacturing as well as of a commercial city.
- 51 and 52.—3. Justify the appellation of "market of markets" as applied to London.
- 53-56.—4. Depict the commercial features of the river Thames and the river-side docks, and contrast with aspects of "West End" trade.

CHAPTER VII.

INLETS TO OUR METROPOLIS, AND INTERNAL TRADE.

- 57-59.—1. What inland advantages for the collection and delivery of merchandise does London possess over other towns, and what others for sea-borne traffic?
- 60.—2. Give a description of the British coasting-trade, and point out its national advantages.
- 61.—3. Write a short sketch of the English railway systems radiating from London as a centre.
- 62.—4. Prove by examples of Continental States that completeness of communications by rail and internal waterways is of great commercial benefit.

CHAPTER VIII.

EXTERNAL TRADE.

Pars.

- 64 and 68.—1. What circumstances contribute chiefly to the importance of Liverpool and Glasgow as commercial ports? Show the business relation of these two ports.
- 65.—2. Name some of the other ports of England in their order of importance; describe their position and their special trade.
- 66.—3. Compare the material progress of Ireland; contrast with that of any European counterpart State.
- 67.—4. Classify the chief ports of the British Isles, and give grounds for your classification.
- 68 and 69.—5. Trace the rise, or the fall, of any of our seaports, assigning such reasons as you are able to give.

CHAPTER IX.

EBB AND FLOW, WITH CIRCULATION OF MERCHANDISE.

- 70 and 71.—1. Show by the familiar instance of cotton the flowing-in of raw material, and the flowing-out of manufactured goods.
- 72-74.—2. What part does money or currency perform in the circulation of merchandise?
- 75.—3. Explain by examples the meaning of "passive" traders, and show how "active" commerce has universal influence, reaching even to the most barbarous tribes.

CHAPTER X.

COMPETITION AND CO-OPERATION,

- 76.—1. What are the causes and what the consequences of competition in the work of production? In what divisions of labour does competition exercise the keenest influence?
- 77.—2. Show in what manner the spirit of competition spreads from individuals to nations.
- 78.—3. Trace the course of British pre-eminence in the arts of production.
- 79 and 80.—4. Describe the industrial rivalry of Continental States, and the influence of their means of mental culture upon their material progress.

CHAPTER XI.

MIGRATIONS AT HOME AND EMIGRATION ABROAD.

Pars.

- 81 and 82.—1. What circumstances conduce to migrations of labour?
Show how such migrations operate upon our home population.
- 83.—2. Define the chief industrial causes of labour migrations; and account for the tendency of towns to increase and of agricultural districts to decrease in population.
- 84 and 85.—3. Describe some European counterparts of British industrial districts; and show also their correspondence in geological and climatic conditions.
- 83-86.—4. Under what circumstances do our home migrations of labour merge into immigrations of labourers from abroad, and into emigrations to our colonies or foreign parts?
- 87.—5. Show how the expression, "a westward wave of emigration," applies between the Continental States, as well as to the United Kingdom and the various regions of North and South America.
- 88-91.—6. Classify the British colonies and dependencies, and examine their economic importance to the mother-country.

CHAPTER XII.

COMMERCIAL SITE OF THE UNITED KINGDOM.

- 92-94.—1. What circumstances, physical and political, conduce to render the United Kingdom the trade-centre of the world?
- 94.—2. How does commercial intercourse promote the inter-dependence of nations?
- 95.—3. In what respects is England better placed than the Continental States for the pursuits of commerce, and how have her physical advantages been aided by political events.
- 95 and 96.—4. Generalise the trade between England and her colonies, with a view to the benefits that mutually accrue?
- 96.—5. How do the results of our colonial trade influence foreign nations in their intercourse with the United Kingdom?

CHAPTER XIII.

OUR GREAT OCEANIC COMMUNICATIONS.

Paris.

- 97.—1. Give some account of modern improvements in the means of transport over-sea, and of the scientific devices to expedite correspondence.
- 98.—2. What advantages of transport do the Continental States possess over insular Britain?
- 100.—3. How is the security of our mercantile marine, and of "ship's supplies" *en route*, effected?
- 101.—4. Specify the five great ocean highways, and enter into details of the Atlantic line.
- 102.—5. Give some details of the commerce through the Suez Canal.
- 103.—6. By what route is Chili reached, and what other trade is comprised in the same route?

CHAPTER XIV.

RAILWAY THOROUGHFARES AND TRADE-FUNCTIONS.

- 105-107.—1. What new forms of industrial and commercial activity may we trace to the introduction of the railway system? How do the Continental systems differ from our own?
- 108 and 109.—2. Describe the great railway routes of Europe eastward.
- 111.—3. Show how the European waterways interlink with the railway systems.
- 112.—4. Give an account of the land and water communications of North America.
- 113 and 114.—5. Show in what manner improved means of transport alter the local character of industry.

CHAPTER XV.

IMPORTING AND EXPORTING.

- 115 and 116.—1. How do the imports and exports of various countries often differ in character? What part does money perform in effecting exchange? Show that commercial transactions between nations are, in principle, the same as between individuals.

Pars.

- 117.—2. An equivalent being given and taken in commercial exchanges, how is it that in some countries the imports regularly exceed the exports in value, while in other countries the reverse is the rule?
- 118.—3. Explain the apparent inconsistencies of British "returns" in 1885, when the imports of merchandise exceeded the value of the exports by one hundred millions sterling, while the cash account stood closely balanced.
- 119.—4. Name, in the order of their magnitude, the chief British imports of substances used for food and clothing, and the principal sources of supply.
- 119 and 120.—5. Name, in the order of their importance, the chief British exports; name also the countries which are our best customers.
- 120 and 121.—6. What division of mercantile enterprise, apart from commerce proper, or foreign interchange, adds most to British trade? Show that the profits of trade are shared internationally and are not monopolised by any single commercial State.

CHAPTER XVI.

A STUDENT'S REQUIREMENTS FOR BUSINESS.

- 122.—1. Illustrate the wide range of technical knowledge required by a student to fit him to become a successful manufacturer or merchant.
- 123.—2. Show how a merchant computes his annual gains, and what are the principal risks against which he has to guard, distinguishing those within his own control from those due to natural causes.
- 124 and 125.—3. Who are our Consuls? State briefly their commercial functions, and say how these may be studied.

CHAPTER XVII.

NEW OPENINGS FOR TRADE.

- 127.—1. What are new markets? Where must they be primarily sought or "created," and under what precautions?
- 128.—2. Show how the material progress of France and Germany has modified England's position in some markets.

Pars.

- 130 and 131.—3. Describe the colonial markets, dependencies of England, taking either those of the Eastern or those of the Western Hemisphere.
- 132.—4. Give in detail the commercial capabilities of India.
- 133.—5. Exemplify markets of primary and of secondary rank.

CHAPTER XVIII.

FELLOW-TRADERS.

- 134.—1. Show how the industrial energy of races is affected by climatic influences.
- 135.—2. Examine this thesis : "To interpret commercial movements in any country, we need to know the physical features of that country, its natural gravitation, and the means devised by man to surmount difficulties of transit and transport "
- 136.—3. What resources are open to England to meet competition of neighbouring nations? Mention industries with which we cannot compete, although situated in the same climatic zone as our own, and say why.
- 137-139.—4. Enumerate the principal States to which we export and from which we import goods.
5. Give instances among those States both of equal and of divergent proportions of exports to imports, and assign reasons for these proportions.
- 140 and 141.—6. What States are the chief manufacturing competitors with England? and in what markets?

CHAPTER XIX.

RIVALS IN BUSINESS.

- 143.—1. Prove by examples that a commercial State virtually without sea-ports must still rely upon foreign and sea-borne traffic for its internal and its international trade.
- 143-145, 151.—2. Describe the river systems of Germany, and the natural gravitation of merchandise. Show also how national industries are modified by physical features.
- 145-148.—3. Classify the resources and the manufactures of Germany, and show how the arts of production and trade have been influenced by railways.

Pars

- 149 and 150.—4. In what special manner does Germany show her commercial activity abroad? Name her chief home and foreign markets, her entrepôts, and her emporiums.
- 151 and 152.—5. Contrast the industrial and commercial activity of South Germany with those of North Germany; give what reasons you can for the difference.
- 153-155.—6. What claims has commerce to be regarded as a science?

CHAPTER XX.

COMMERCIAL FACILITIES.

- 156.—1. What are the properties that render the precious or royal metals universally acceptable as a "medium of exchange"? Explain the English system of coinage.
- 157.—2. Describe the currencies of the representative commercial States of Europe, Asia, and America.
- 158 and 159.—3. Why are weights and measures essential to interchange? How are the English pound-weight and the yard determined, and other measures derived therefrom?
- 160 and 161.—4. In what respects do the Continental standards of weights, measures, and coins differ from the English standards?
- 162 and 163.—5. Describe the chief aids to commerce in relation to "security" and "correspondence."
- 164.—6. How do intelligence and integrity perform the parts of chief factors in industrial and commercial advancement?

CHAPTER XXI.

STUDIES OF THE UNITED KINGDOM—A KEY TO OUR HOME TRADE.

- 165 and 166.—1. Define the physical conditions of a country "well situated" for commercial enterprise, and then examine how far these conditions exist in the United Kingdom.
- 167 and 168.—2. Sketch the watersheds of England with the river-basins, and show how the national industries are affected by these and other physical features.
- 169.—3. Enumerate the chief centres of our *special* manufactures, ascribing to each, respectively, the causes of its localisation.
- 170.—4. Describe generally the geography, with the industrial and commercial characteristics, of Wales.

Paris

- 171-173.—5. Contrast the Scottish Highlands and Lowlands in their natural aspects, their industries, and their trade.
- 174 and 175.—6. "Ireland does not exhibit proofs of the material progress and commercial enterprise which her geographical position and resources might presuppose." Investigate this assertion.

CHAPTER XXII.

STUDIES OF THE UNITED KINGDOM—(Continued).

- 177.—1. Localise the principal mineral and metallic products of England.
- 178 and 179.—2. Localise, similarly, her agricultural products and her various fisheries.
- 181.—3. Localise, similarly, the material resources and industries of Wales.
- 182.—4. Localise, similarly, those of Scotland.
- 183.—5. Localise, similarly, those of Ireland

CHAPTER XXIII.

STUDIES OF THE UNITED KINGDOM—(Concluded).

- 187-189.—1. In what respects does the range of knowledge required for the shipowner or the merchant differ from that of the factor, broker, or agent?
- 190 and 191.—2. What are the essential characteristics of an *in*-port, an *out*-port, and an *in-and-out* port combined? Refer to examples of all three, at home and abroad.
- 192.—3. Show that British exports are not always shipped from ports nearest the fields of production, but from ports with the best facilities for shipment. What is meant by an "open policy" of marine insurance?
- 193.—4. Classify our British shipping, and describe the distinctive character of the trade of each class.
- 194-197.—5. How far is Scotland self-sustaining or dependent upon England? How does difference of geographical position of the east and west coast modify trade respectively?
- 198-203.—6. Describe the industries of Ulster, with grounds for the conviction that Ireland's material progress may be improved and firmly established.

CHAPTERS XXIV.-XXVI.

THE NATURAL DIVISIONS OF TRADE THROUGHOUT
THE WORLD.

Pars.

- 204-233.—1. Name and localise the natural trade-areas of the world.
2. What are the characteristic staples of the Baltic area, the Indian area, the West African area, and the Canadian area?
 3. What latitudes and isotherms are included within the Mediterranean trade-area?
 4. From the foregoing charts specialise the *industrial* products of the vegetable kingdom according to isotherms and latitudes; deduce therefrom the trade-areas in which particular products are characteristic exports.
 5. Apply Question 4 to the *alimentary* products of the vegetable kingdom.
 6. Distinguish between national divisions and natural divisions. Illustrate your meaning by a reference to the Baltic trade.

CHAPTER XXVII.

ALIMENTARY AND INDUSTRIAL ESSENTIALS, WITH
AUXILIARY PRODUCTS OF THE MERCANTILE
WORLD.

- 234-238.—Dissect the chart of each country for alimentary and industrial essentials.

SOCIETY OF ARTS EXAMINATION QUESTIONS.

ALLOW me to recommend my readers to apply to the Secretary of the Society of Arts for a copy of the entire Programme of Examinations in Commercial knowledge.

By permission, I append a series of the Questions, 1875-1881, as set by myself for the united departments of

COMMERCIAL HISTORY AND GEOGRAPHY.

GENERAL INSTRUCTIONS TO STUDENTS.

THE following questions have been carefully graded, and adapted by their respective divisions to three classes of certificates, first, second, or third

After having read the whole of the questions, you must decide for yourself the class of certificate at which you will aim.

You may not attempt two classes, nor will answers inadequate to a higher be accepted for a lower class.

N.B.—Every paper must be headed "For First, Second, or Third Class," as the candidate may determine; and to every answer the number of the question must be prefixed.

Time allowed, three hours.

THIRD CLASS.

1. Illustrate the national importance of commercial geography from the varied character of our imports, and from our facilities for inter-communication.

2. Name five of our principal coalfields, three centres for the production of iron, and two for copper. Say, also, where lead, tin, slates, and salt are chiefly found.

3. From what foreign markets do we obtain supplies of cattle, corn, dairy-produce, fruits, jute, silk, sulphur, and timber?

4. How was the commerce of this country carried on, that is, by whom and with whom, from early times down to A.D. 1600?

5. Give some particulars about the siege of Antwerp, A.D. 1585, and say what were, to England and to Holland, the commercial consequences of the destruction of that city.

6. What were the chief trading towns of antiquity, of the Middle Ages, and of modern times down to A.D. 1800? Add any historical remarks in your power.

SECOND CLASS.

7. Show briefly how the staples of our industry have been determined by geological and geographical conditions, and thus how these have locally affected the density of our population.

8. Which parts of the British Islands may be compared, as to climate and productions, with the North of Spain, with Normandy and Brittany, or with Germany and Mid-Europe? Also which other parts, as to mineral characteristics, with Belgium or with Saxony?

9. Name the localities of our leading manufactures, and show also the advantages for inland navigation afforded by our numerous canals.

10. Say what connection is established by steamboats amongst the ports on our coasts, east and west, and from Lerwick to the Lizard Point. Give the distances of some of the ports of America from Liverpool, and state the length of a voyage from London to Bombay, *via* Suez and *via* the Cape.

11. State the worth of £1 at par in the currency of as many countries as you can.

12. Give evidence of the duration and of the diffusion of commerce by naming, in chronological order, the great commercial capitals of the world.

13. What effect on the Mediterranean and on the Baltic trade had the capture of Constantinople, A.D. 1453?

14. What was the origin of the Dutch East India Company, and wherein did its policy differ from that of the West India Company? What was the Tulipomania?

FIRST CLASS.

15. What was the population of the British Isles, or of Ireland alone, in 1801, 1851, and 1871? What is the density of population in Ireland compared with that of Continental countries?

16. Give a brief account of our fisheries, home and foreign.

17. Why were our southern and eastern ports earlier in commercial activity than the Western? Why were Kent, Surrey, and Sussex once the chief seats of our iron manufacture, and why are they no longer so?

18. Arrange our chief imports and exports according to value, and in like order name the countries from which we buy and to which we sell goods.

19. Mention some varieties of arrowroot, coffee, rice, sugar, wheat, and wool.

20. State the worth of £1 at par in the currency of as many countries as you can, adding, if you choose, particulars of weights and measures also.

21. Name some of the chief constituents of Baltic produce, give the distances of the principal Baltic ports from Hull or London, and say how recent events have affected the trade of Copenhagen and Hamburg.

22. Describe the circumstances that brought about the formation and dissolution of the Hanseatic League.

23. Narrate a few of the most remarkable incidents in the history of the German Zollverein.

24. What are the chief routes of commerce between the countries of the East and those of the West? Add to the list any historical notes in your power.

1876.

FOR A SECOND CLASS.

Give an account of the following British exports and imports, and touch upon as many as you can of the several points appended to each:—

1. Coal. The position of our coalfields; the chief varieties and qualities of coal; the quantities raised; the help afforded by science to miners and mining.

2. Iron. The districts in which iron is most extensively worked; the names and qualities of a few sorts of iron ore; the annual production of iron in England; various uses of iron in the arts; history of iron-smelting.

3. Linen. The limited growth of flax at home; its preparation for use; places of manufacture; history of the linen trade and of bleaching.

4. Cotton. The climate and soil required for it; our sources of supply; the principal varieties and qualities; the districts of our cotton manufacture; the chief foreign markets for the sale of our cotton goods.

5. Silk. Whence obtained; the chief kinds of raw silk; our seats of silk manufacture; our competitors abroad; the history of the silk-trade.

6. Sugar. Limits in range of growth of the sugar-cane; migrations of the cane; varieties of sugar and sources of supply; the beetroot, maple, and other sugars.

7. Tea. The principal varieties; our consumption; tea-culture in China, Assam, and Japan; transport of tea by caravans in north and south Asia; effect of the Suez Canal on the tea-trade of Southern and Western Europe.

8. Timber. Limited home supplies; foreign markets for the purchase of sawn wood and staves; also for cabinet woods, cedar, ebony, mahogany, &c.

9. Wine. Natural range of the vine; countries in which it is specially cultivated; market varieties of wine; political treaties that have influenced national taste in the use of particular wines.

10. Wool. Commercial application of the term "wool;" our native growths; chief sources of supply from abroad; differences in the quality of staples: historical sketch of the woollen industry.

FOR A FIRST CLASS.

11. Compare France with England alone, as to their relative commercial position; their area and population, roadsteads, rivers, canals, and seaports.

12. In what respects do the climate, soil, and natural resources of France and England seem supplementary to each other? Where are the French colonial dependencies?

13. Describe the chief manufacturing districts of France, and state the "specialty" of six of the following places.—Amiens, Angoulême, Bourges, Cambrai, Chaumont, Grenoble, Lille, Lyons, Paris, Rouen, St. Etienne, St. Quentin.

14. Contrast the industrial aims of Sully, Colbert, Du Quesnay, and Turgot.

15. Explain briefly the objects of the Eden treaty (1786), of the Berlin decrees (1806), of the Cobden treaty (1860), and point out some of the most marked results of each.

16. Give a short description of the Spanish peninsula as to its irregularities of surface and temperature, its mines, roads, rivers, ports, and canals.

17. Mention the chief industrial uses, and the commercial importance of some of the following:—Barilla, cork, fruits, grass, honey, insects (kermes and cantharides), nuts, oils, roots, silk, wax, wheat, wines, and wool, the produce of Spain.

18. Describe five of the following places :—Barcelona, Bilbao, Cadiz, Carthagen, Cordova, Granada, Madrid, Malaga, Segovia, Valencia.

19. What do you know of Havana, Porto Rico (San Juan de), and Manilla?

20. Write a summary of what seem to you the most remarkable occurrences in the industrial history of Spain.

1877.

FOR A SECOND CLASS.

1. From what parts of the United Kingdom, and from what distant markets, are supplies derived for the ordinary business of a greengrocer or dealer in garden and orchard produce? Also for that of—

2. A dealer in dried fruits, a grocer, and tobaccoconist? With that of,

3. A corn-chandler and dealer in flour?

4. Whence do we obtain copper, gold, lead, silver, tin, and zinc?

5. Name and describe briefly two European countries possessed of neither coal nor iron, yet largely concerned in manufactures and commerce.

6. Give some account of British fisheries; and say also to what extent the Dutch discovery of the art of curing herrings affected the Hanseatic and European trade, as well as promoted the prosperity of Holland.

7. Explain why beer, butter, coffee, cotton, fish-oils, potatoes, spirits, sugar, tea, and tobacco were severally almost unknown to the commercial Greeks and wealthy Romans.

8. What are the essential characteristics of Russian raw produce, and the chief outlets for it in the White Sea, the Baltic, the Black Sea, and the Caspian?

9. How is Nijni-Novgorod situated, and for what is it famous?

10. Mention a few of the commercial vicissitudes that have occurred at Constantinople.

FOR A FIRST CLASS.

11. Show that nature everywhere furnishes man with the kind of food most appropriate to him in his dwelling-place.

12. Give some account of the principal modern industrial and medicinal plants.

13. Name the chief commercial products of the animal kingdom, and say where they are found in the highest perfection.

14. Name and describe briefly the principal raw materials, such as alpaca-wool, gutta-percha, &c., introduced into commerce during the last forty years.

15. Can you think of any sources of supply for new substances likely to be useful in manufacture, or of any increased utilisation of substances already known?

16. Illustrate by commercial history the beneficial influence perceptibly resulting from the culture and use of cotton, flax, hemp, and silk in different parts of the globe.

17. What are the chief European seats of Russian manufacture and trade, and the ordinary roads to them?

18. What do you know of the territorial advances of Russia east of the Ural and the Caspian since the days of Peter the Great?

19. Say what you can of the condition of European Turkey, as to its agriculture, mining industry, manufactures, and trade.

20. Describe the principal trade-products and trade-routes, old and new, of Ottoman Asia.

1878.

FOR A SECOND-CLASS CERTIFICATE.

1. Arrange the following ports in the order of their distance from London by railway, giving the mileage approximately:—Aberdeen, Bristol, Dundee, Glasgow, Hull, Liverpool, Newcastle, Portsmouth, Swansea, Yarmouth.

2. Name the chief lines of railway radiating from the Metropolis; also a few provincial railway centres of importance, such as Chester, Rugby, &c.

3. More than twenty seaports of the United Kingdom are connected by regular lines of coasting-steamers, as Glasgow and Belfast, Milford and Waterford; give what particulars you can of them, and of the inland navigation of England and Wales by river and canal.

4. How many miles is Dover from Calais, Folkestone from Boulogne, Newhaven from Dieppe, Portsmouth from Havre, London (by water) from Antwerp, Calais, Hamburg, Ostend, St. Petersburg, and Rotterdam?

5. There is a *nett* increase of population in the United Kingdom of seven hundred daily; is there any corresponding increase in business known to you in (a) the agricultural, (b) the mining, (c) the manufacturing districts?

6. The population of the United Kingdom is very unequally distributed, and much more so now than formerly; what natural causes have led to this, and what consequences have ensued to trade and commerce?

7. Where are our principal manufactures located? Which of the following branches of industry seem to you to be thriving or decay-

ing: ale and beer, earthenware, hardware, paper, sugar-refining, watchmaking?

8. Which parts of the United Kingdom correspond, in climate and vegetation, to some extent with the North of Spain, with Normandy and Brittany, with Germany and Mid-Europe, with Sweden and Lapland?

9. Which parts of Europe most resemble North and South Wales in mineral produce? What towns are there on the Continent industrially akin to Sheffield, Wolverhampton, Nottingham, and Coventry?

10. In what way has the commercial development of the country been modified by the labours of Arkwright, Brindley, Brunel, Cort, Crompton, Dudley, Myddelton, Nasmyth, Neilson, the Stephensons, Wheatstone, and Arthur Young? Sketch the industrial career of any of these men.

FOR A FIRST-CLASS CERTIFICATE.

11. There are five main lines of railway communication between the north and the south of Europe, and four between the west and the east; give details, and a few of the leading towns on each route.

12. Eastern produce, *viâ* Suez, penetrates Europe by three systems of river and canal communication—the Russian, the German, and the French; explain the connection of each system, and name the ports at their extremities.

13. Which is the shortest journey, London to Wick, N.B., or London to Bâle? Give the proofs, and, in the latter case, by more than one line of route.

14. Yorkshire has an area of about six thousand square miles (5983), with a population approaching two millions and a half (2,436,358); how does Switzerland compare with it in these respects? How many Swiss towns have more than ten thousand inhabitants?

15. What proportion of the Swiss people are land-owners? What languages prevail, and where? What is the money of the country? What are the chief exports and imports?

16. What are the leading branches of industry in Appenzell and St. Gallen, Bâle, Geneva, La Chaux-de-Fonds, Neuchâtel, Winterthur, Glaris, and Zurich?

17. What are the distances in nautical miles from London to Gibraltar, Malta, Genoa, Leghorn, Naples, Gallipoli, Brindisi, Ancona, Venice? How many Italian towns have more than one hundred thousand inhabitants?

18. Compare the eastern coasts of the Italian peninsula with the western as to fertility and general prosperity; account for the differ-

ence between them. Where is the "mulberry shade, golden shade?" and why so?

19. The Italians export fish, fruits, minerals, oil, silk, and wines; give particulars of any of these. What do the Italians import? What do they manufacture? What is their currency?

20. In what sense has Italy been justly called the garden of Europe, Italian cities been accounted nurseries of the arts and sciences, and Italian seaports schools of navigation?

1879.

FOR A SECOND-CLASS CERTIFICATE

1. What, in round numbers, was the population of England and Wales in 1801, in 1851, and in 1871? What is the present rate of increase?

2. Which part of the population has increased the most—the agricultural, the manufacturing, the maritime, or the mining? Explain the causes.

3. Compare, broadly, the industrial produce of the North of the United Kingdom with that of the South, and that of the East with the West.

4. Do you think that our Home trade *must* be supplemented by a Colonial and a foreign trade? Give your reasons.

5. Compare the numbers and occupations of the people in Norfolk, Suffolk, and Essex with those of Yorkshire, or with those of Cheshire and Lancashire.

6. Omitting London, there are, in England, twelve towns having more than 100,000 inhabitants each; which are they? Sketch the progress of any one of them.

7. What is the chief business carried on in and around Burslem, Maidstone, Merthyr-Tydvil, Middlesborough, Oldham, and Stroud?

8. What are our standards of weight, measure, and money, and whence are they respectively derived?

9. Are there any drawbacks or disadvantages for modern commerce in our insular position?

10. Name a few remarkable epochs in our commercial history since the days of Elizabeth.

FOR A FIRST-CLASS CERTIFICATE.

11. Name the principal colonies and dependencies of Great Britain.

12. Which of them are stations for defence or shelter; which are trade entrepôts; which are plantation colonies; which agricultural, pastoral, or mining colonies?

13. Which of them most attract our emigrant operatives? which the middle classes? and how does the choice of locality affect the mother-country?

14. In India there are fifteen cities having more than 100,000 inhabitants each; name some of them; also the largest plantation districts, and the stations most salubrious for Europeans.

15. What efforts have been made to shorten the road to the East, and what have been the commercial results as regards ourselves?

16. What are our chief articles of import for food or manufacture? whence are they obtained? Specify our colonial imports.

17. What are the staples of our export trade? Who have been, and who are, our best customers? Where may new markets be expected?

18. Illustrate the nature and extent of our foreign connections by naming our main lines of oceanic steam navigation and submarine telegraphs.

19. What advantages might be anticipated from a commercial league among all English-speaking people on the principle of the Hanseatic League?

20. Sketch the most prominent features of our commercial history since 1779.

1880.

FOR A SECOND-CLASS CERTIFICATE.

1. What is meant by "raw produce" or "raw material"?

2. What is the principal raw produce of England, or Scotland, or Ireland, or Wales?

3. Where are our chief seats of manufacture for cotton, cutlery, earthenware, glass, hardware, leather, machinery, paper, silk, and wool?

4. Why are our fisheries of national no less than commercial importance?

5. Whereabouts are our codfish, herrings, mackerel, pilchards, salmon, soles, sprats, and turbot caught? Where are crabs, lobsters, oysters, and shrimps caught?

6. How was our home and foreign trade carried on to about A.D. 1500? By whom?

7. What changes occurred during the next century?

8. How came there to be a British Empire in the East?

9. Name our colonies in Australia, and their productions.

10. What do we obtain from our different African settlements?

FOR A FIRST-CLASS CERTIFICATE.

11. Whereabouts in the United States are coal, copper, gold, iron, petroleum, and quicksilver found? How do these influence the markets of the Old World?

12. Where in the United States are cotton, maize, rice, sugar, tobacco, and wheat cultivated, and with what success relatively to other countries?

13. Which are the great seats of manufacture or commerce, and which the main lines of intercommunication in the United States?

14. What special causes have promoted the wealth and power of the United States?

15. What does the Dominion of Canada include? What is the nature of our North American trade?

16. With which six countries have we the largest commerce? Name the chief articles of our export and import to or from each of them.

17. What is the advantage to us of such "possessions in the East" as Aden, Ceylon, Hong-Kong, Mauritius, the Straits Settlements, &c.? Give particulars.

18. What is the English equivalent for the coin of account in the United States of North America, the Argentine Republic, Austria, Belgium, Brazil, China, Egypt, France, the German Empire, Greece, Holland, India, Italy, Japan, Persia, Spain, Sweden, and Turkey?

19. How and why are Consuls appointed? Have all like powers?

20. Explain the terms "active trade" and "passive," and illustrate both from history, as well as from recent and existing commerce.

1881.

FOR A THIRD-CLASS CERTIFICATE.

1. What is meant by our expression, "The United Kingdom"?

2. What commercial advantages result from the several Unions? When did the Unions take place?

3. What are "raw materials," and what are the more important ones of the United Kingdom?

4. Describe some of the several sorts of clay and of coal abounding in the United Kingdom.

5. Whereabouts in the United Kingdom are ores of copper, iron, lead, and tin found?

6. Where are the best of our building stones, ornamental stones, and slates found?

7. In what parts of the United Kingdom would you look for dairy-husbandry, or cattle-rearing, or corn-growing?

8. What parts of the United Kingdom are called "the manufacturing districts," and what are the chief manufactures?

9. What is understood by "the Black Country," and what kinds of industry prevail there?

10. Say what you can of the growth of industry and commerce in the United Kingdom, or of the eminent men who have promoted either.

FOR A SECOND-CLASS CERTIFICATE.

11. Do you perceive any commercial advantages derivable from the peculiar *shape*, geological *structure*, or geographical *situation* of the United Kingdom?

12. What are the chief natural (or *latent*) elements of wealth in the United Kingdom?

13. Where, in the United Kingdom, would you look for clay, coal, granite, iron, jet, lead, salt, slate, tin, or for cheese, flax, hops, and wool?

14. Which towns and ports of the United Kingdom rose into importance from the wool-trade? Where are our woollen manufactories now?

15. Name the staple industry of Bolton, Burslem, Manchester, Middlesborough, Stroud, and Wigan; and say something, if possible, of the origin of the prosperity of one of these towns.

16. What are the principal articles of home produce exported from the United Kingdom, and what are imported? Give six of each.

17. Is there anything specially distinctive known to you in the commerce of Glasgow, Bristol, Hull, Liverpool, London, or Southampton?

18. What lines of coasting-steamers connect our ports, and what canals intersect our country?

19. What has been the growth of the population of England and Wales during this century? Compare, if you can, the *class* and the proportion of *immigrants* to the *emigrants*.

20. What services to their country, and to industry and commerce especially, have been rendered by Arkwright, Bell, Bessemer, Brindley, Stephenson, or James Watt?

FOR A FIRST-CLASS CERTIFICATE.

21. From a commercial point of view, does our insular condition, with transmarine dependencies, compare favourably or otherwise with the vast unbroken range of territory existing in Russia and America?

22. What was meant by the "Mercantile System," as applied to colonies generally, and to our own in particular?

23. Which of our possessions are merely places of call, or for shelter, or for defence? Which are trading-stations chiefly?

24. Describe some of the strictly plantation settlements.

25. Of the mining, pastoral, or agricultural colonies, which attracts the largest number of emigrants of British origin; and in which has the emigrant become, commercially, most profitable to the mother-country?

26. Excluding India, what is the population of the Colonies proper? And what proportion of our entire trade is colonial?

27. Taking India alone into consideration, name the trading-stations or trade entrepôts, the plantation settlements, the mining, pastoral, and agricultural districts, if any.

28. From which of our possessions do we obtain the following products:—Angora hair, antimony, arrowroot, asphalt, cinchona, cocoa, coffee, coir, copper, cotton, diamonds, dye-stuffs, fish, fruits, furs, gold, gums, gutta-percha, hides, and horns?

29. From which others:—Indigo, india-rubber, ivory, jute, opium, palm-oil, precious stones, petroleum, plumbago, rice, sago, silk, silver, spices, sugar, tea, timber, tin, tobacco, and wool?

30. Which of the British possessions seem to you the best for a merchant's clerk going out "to make his way in the world"? Which seems to you to afford the best market for a capitalist seeking investments? Give reasons.

Young men who may think of going abroad, and thus of competing with foreign clerks, correspondents, salesmen, &c., are requested to read carefully the following Questions on—

FOREIGN ACCOUNTANTS' WORK.¹

1. What is the unit of the metrical measure of length?
2. How does the subdivision and multiplication of it take place?
3. What is the 10th, 100th, 1000th part of that unit, and what is the 10th, 100th, and 1000th multiple of it?
4. Which of these measures of length is used as the road measure?
5. What is the unit of the metrical measure of surface? How is it connected with the measure of length? What are the subdivisions and the multiples of it?
6. Which of these superficial measures are used as land or field measure?
7. What are the metrical cubic measures, and what are they called?
8. How many cubic centimètres does a cubic mètre contain? And how many cubic millimètres does a cubic centimètre contain?
9. What is the unit of the metrical measure of concavity or capacity? How many cubic centimètres does it contain? What connec-

¹ Itinerant teachers have been sent through the rural districts of Wurtemberg to teach bookkeeping to females. To reach the humblest, and furthest from towns, a book of questions has been drawn up for clerks and artisans.

tion has it with the measure of length? What magnitude, and what name, have its subdivisions and multiples?

10. What is the unit for the measure of wood?

11. What is the unit of metrical weight? What magnitude, and what name, have its subdivisions and multiples?

12. What proportion does the kilogramme bear to the German zollpfund?

13. What connection is there between the metrical weight and the metrical measure of concavity or capacity?

14. How was the Wurtemberg foot measure, which we find used in the books and writings of a former period, divided? What multiples of it were customary?

15. How large was the Wurtemberg foot in parts of metrical measure?

16. How large is the mètre in Wurtemberg, feet and inches?

17. How large is the Wurtemberg ell expressed in feet and inches? And how large in metrical measure?

18. How would you express in metrical square measure the size of a room given as 298 Wurtemberg feet square?

19. A beam is 12.4 mètres long, 0.23 mètres broad and thick; what are its cubic contents?

20. There is a block of stone 1.02 mètres long, 0.65 mètres broad, and 0.32 mètres high; what are its cubic contents?

21. A road 10 mètres in breadth and 17 kilomètres in length is to be raised 0.35 of a mètre on the average; how many cubic mètres of material will be required for the purpose?

22. A block of marble, which has a specific gravity of 2.5, weighs 1866 kilomètres; what are its cubic contents?

23. An empty cask weighs 50 kilogrammes, and when filled with water 400 kilogrammes; estimate its contents.

24. A cask of three hectolitre size, filled with wine of the specific gravity of 0.95, weighs 350 kilogrammes; how heavy is the empty cask, and how much would it weigh filled with water?

25. From an earthen oil-vessel which when full weighed 570 kilogrammes, oil had escaped so that it now weighed only 490 kilogrammes; what will the loss amount to by measure if the oil has a specific gravity of 0.82?

26. On one square mètre of white iron plate let us suppose that there are (both sides taken together) 425 grammes of tin. How much tin lies on a roof for the covering of which 1250 plates of such tin, each 0.35 mètres long and 0.25 mètres broad, were used? How thick must we reckon the tin coating to be, and what space would the collected tin alone take up if it have the specific gravity of 7.02?

27. What are the Wurtemberg coins in silver, silver small coin, and copper small coin?

28. According to what standard of coinage are the half-guilder pieces and all the larger silver ones coined?

29. How many guilders of such silver money must a man have together to obtain from them a kilogramme of fine silver?

30. Why does a guilder made up from small silver coins contain a less amount of real silver than does a guilder piece, notwithstanding that this latter is less in weight?

31. In what other German States does the standard of coinage agree with the Wurtemberg?

32. Why do the Wurtemberg and other German thalers bear the inscription Union thalers?

33. What is understood by the thaler standard?

34. Where is the thaler standard in use?

35. How is the thaler divided in the states of the thaler standard?

36. How many thalers does a kilogramme of fine silver contain?

37. What proportion is there between thalers and South German guilders in the smallest whole numbers?

38. What is understood by Austrian standard?

39. How many Austrian guilder pieces taken together contain one kilogramme of fine silver?

40. How is the Austrian guilder subdivided?

41. What is the proportion between Austrian and South German guilders in the smallest whole numbers?

42. How much is the Austrian guilder worth in South German money?

43. Is the Dutch guilder equal to the South German in intrinsic value?

44. What is the alloy of copper in the Union thalers and in the remaining South German silver coins, with exception of the small coinage?

45. What is the meaning of the inscription on most of the older thalers—"14 one mark fine"?

46. What is the value of one dekagramme in Union thalers, or in $3\frac{1}{2}$, 2, $1\frac{1}{2}$ South German guilder pieces?

47. From one kilogramme of fine silver sixty German thaler pieces are coined, each three marks in value; in the gold 20-mark pieces the value of one kilogramme of fine gold is reckoned $15\frac{1}{2}$ times as high as that of a kilogramme of fine silver, and nine parts of gold are alloyed with one part of copper. From this, how high must the weight of a 20-mark piece be estimated in grains?

48. What is the value of twenty-five 20-mark pieces in South German money?

49. How many marks are 1492 South German guilders worth?
50. According to what money standards do the French, Swiss, and Belgians reckon?
51. How high is the French, Swiss, Belgian, and Italian franc reckoned and accepted amongst us?
52. What is understood by the course of exchange in currencies?
53. What is meant, when it is said that the course of a certain kind of foreign coin stands at par, above par, or below par?
54. Whence comes it that gold coins have a variable and often fluctuating course? What is the cause that the German 10 and 20-mark pieces make an exception from this (in their circulation in Germany)?
55. Why is the course of foreign silver coinage so uniform, or so little variable?
56. What exchange is it whose course is commonly adopted as a guide in Wurtemberg?
57. In what way may payments be effected, without the transfer of bullion or coin?
58. What is meant by a draft?
59. What is understood by coupons, and what must be observed when these are taken in payment?
60. What is a bill of exchange? Wherein consists its essential features and its legal claims?
61. Wherein lies the difference between a draft and a bill, between a bill and an acknowledgment?
62. Why is it advisable for a man, in a small way of business, to draw bills on himself, or to suffer others to draw bills upon him, only with extreme caution?
63. What precaution must be observed in the taking of a stranger's bill instead of payment, to prevent loss?
64. Wherein consists the difference between a protected or own bill, and a bill drawn upon you (a draft)?
65. What is meant by drawing on, and by remitting?
66. What is a remittance?
67. Which person is named "drawer," which "drawee," which "remitter"?
68. What do the terms "sole bill," "first," "second," of exchange mean?
69. What is the meaning of the expression "To the order of" in a bill? In what case does a man sometimes draw it to his own order?
70. What is the meaning of the expression in bills ' Value received ' or " Value in account " ?

71. What is indorsing a bill? How is indorsement effected? Where is the indorsement to be written?

72. What is the meaning of indorsement "in blanco"?

73. Which persons are called the indorsers or granten of a bill? In what relation of responsibility does one indorser stand to the one next succeeding him?

74. What is meant by expiring, the day of expiring, applied to a bill?

75. What are called short bills; what long ones?

76. What is the meaning of "At sight" on a bill or draft?

77. When a bill has been drawn at so much time after date, how are the days that it still has to run reckoned?

78. If a man draw a bill on a creditor, or on a business connection, what ought also to be done at the same time to the person drawn upon? What ought a letter of advice to contain? What meaning have the words occurring at the end of bills or drafts "according to advice," or "without advice," or "with or without advice"?

79. What is the acceptance of a bill?

80. What should a man do immediately after taking in payment a bill payable at his place of abode but not yet accepted?

81. In what form is an acceptance expressed upon a bill?

82. What injury threatens the holder of a bill who fails to present it for payment, properly, on the day when it falls due?

83. What is to be done when the acceptance of a bill, or payment of a bill already accepted, is refused?

84. Can, and ought, according to circumstances, a protest to be made twice about one and the same bill? And on what account?

85. May a drawee be induced to allow a bill to be protested even when he acknowledges his indebtedness to the drawer?

86. By whom must the protest of a bill be taken up? After performance of the protest what is there further to observe?

87. What means and rights are befitting the possessor of a protested bill, as regards redress?

88. Why in the sending away of bills is a declaration of value not necessary on the letter?

89. What is meant by course of exchange?

90. In newspapers devoted to exchange business what is meant by the expressions "paper" and "money"?

91. What is to be understood by the gross weight of goods?

92. What is "tare"?

93. What is "nett" weight?

94. What is deduction or allowance? How is it decided and reckoned?

95. What is to be understood by discount in the payment of cash for goods?

96. What is "commission"? How is it calculated?
97. What is "brokerage"?
98. What is to be understood by "charges"?
99. What is the meaning of the expression "for account"?
100. What is the meaning of "prompt" payment?
101. What is meant in price current by "six months' term" and "without liability"?
102. What is meant in a price-list by "For account with $1\frac{1}{2}$ p.c. discount, or three months' term"?
103. What is meant by discounting a bill?
104. What is understood by bill discounting? How is it calculated?
105. What is understood by the word "Agio"?
106. Can you furnish any example of "Agio"?
107. What are the advantages to a man in business of buying his materials in large quantities?
108. What must be observed, however, respecting payment for these purchases, that a man may not fall unawares into any very disagreeable embarrassment?
109. What is the advantage of paying cash as far as possible for purchases?
110. What is understood by "valuation" of finished goods?
111. Why is a careful and exact valuation indispensable to success in business?
112. What are the three principal divisions into which all the items of a valuation severally fall?
113. What belongs to "cost of materials" beyond the price paid for them?
114. How are the waste cuttings, shreds, or fragments, that are still of some value, to be brought into account?
115. What does "cost of labour" comprise?
116. In what way are wages to be calculated?
117. How is a suitable allowance to be made for wear and tear of tools, &c., during the course of the year?
118. In what way, and to what amount, must the deterioration of machinery be allowed for?
119. Under the head of "general costs," what must be comprised and carried to account?
120. How are house or dwelling expenses to be estimated by a man who works in a hired house, and how by one who works in a house of his own?
121. In carrying on a business, what things are to be taken into account as accessories, *e.g.*, writing materials, paper for packing, &c.?
122. How are taxes taken into account?

123. To what extent must the expenses of fire insurance, waste through spoiled work, loss through bad debts, loss through fall in exchange of bills or specie, be carried to account?

124. What must be done in the valuation, if the business necessitates journeys occasionally?

125. How must the valuation be managed so that interest on everything kept in stock, on current expenses, and on provision for coming expenditure, may not be lost?

126. Is this interest to be taken into account only when a man works with borrowed capital, for which he must pay interest in cash?

127. How is the loss of interest through the giving of long credit to be estimated?

128. How much is to be added as necessary profit?

129. In a valuation, what mode of reckoning must be applied to those items of value which, from their nature, do not admit of exact separate estimate?

130. How far can or must the price-lists of rivals in trade furnish a guide for one's own price-list?

131. To what must a tradesman immediately give heed, if he sees that the majority of his rivals offer lower prices than he at the time can afford?

132. At what must the tradesman aim in the maintenance of his business, when he sees himself compelled by competition to put up with a smaller profit?

133. Under what circumstances must the price of an article that was made some time previously, or that has been frequently made, be reckoned afresh?

134. How are expenses that cannot be known beforehand to be sought out, or allowed for?

135. What is indispensable to a tradesman, in order that he may have access to all particulars of his business during the past?

136. What is an estimate of costs?

137. Wherein does an estimate differ from a valuation of finished goods?

138. In an estimate may the exact computation be omitted, because in the amount given only the final result of the calculation—namely, the price to be fixed—is written down without further proof?

139. How ought we to proceed with the estimate of price in larger works, which must be computed in their several parts, as it is not customary to add here apart the so-called general charges?

140. How would you proceed in such a case with the so-called general charges?

141. Why is it useful, even if not required, to mention in an account

for goods delivered the most important items out of which the price of the whole has been made up?

142. In what way is the so frequent, yet so disagreeable, result to be avoided—namely, that after completion of a piece of work the account for it amounts to more than the estimate probably given in before?

143. How is the difference to be dealt with?

144. How does a prudent business man proceed when an account is paid to him in his own house by a customer; that is, in what order does he perform the three things thereby necessary?

145. If the payment be made in the house of the customer, what must be carried out as quickly as possible?

146. How is the very disagreeable mistake of charging a second time, articles already paid for, to be avoided?

147. What is the Statute of Limitation? What legal regulations exist with regard to the limitation of industrial claims? What has a man of business to bear in mind in this matter to protect himself from loss?

—From the "*Gewerbliches Fragenbuch*,"
von Dr. KARL KARMARSH.

FROM THE "QUESTIONNAIRE" OF THE SOCIETY OF COMMERCIAL GEOGRAPHY AT BORDEAUX.

After many inquiries, "At sea," "In the roadsteads," "In port," comes a list of "Observations relative to COMMERCIAL Geography."

I.—EXPORTATION AND EXPORTABLE PRODUCTS.

What are the mineral products of the country? Where are the mines and quarries situated? At what distance from the port? By whom and how are these mines or quarries worked? What is the mode of working them? What are the ways of communication and means of transport between the works and the port? Are there any unworked beds? Could these be worked with advantage? What are the agricultural riches of the country? What vegetable products are available in the port? What products are not objects of much commercial importance? Could any extension be given to such commerce? What European plants are acclimatised or capable of becoming so in the country? What native plants could be acclimatised amongst us? What animals, wild or domesticated, are found in the country? Or what use are they? What resources do they afford to commerce?

What European animals are acclimatised, or capable of becoming so, in the country? What are the native animals that could be acclimatised in Europe? What are the industries of the country? What industrial products are exported from the port or the country? To what destination? By what route? Through what medium? What is the price of these products on the spot? Request: to bring back specimens of the mineral, agricultural, and industrial products of the country, marking carefully on the tickets the places whence the products come, the usual names in the country, and the value on the spot.

II.—IMPORTATION AND PRODUCTS THAT MAY BE IMPORTED.

What are the industrial products most in demand among the inhabitants? From what nation, from what manufacturing centre, through what medium are they received? Does France send her produce into the country? do the inhabitants prefer French goods, or similar, but foreign produce? Say why? What are the prices of these products? What is the quality of them? For what use are they designed? *N.B.*—It might be advantageous to our manufacturers to have specimens of those European goods which are particularly esteemed in the country, their price in the market, and the duties to which they are liable, carefully noted.

*See Journal of the Society of Arts, London, pp. 207-222,
FEBRUARY 8, 1878.*

INDEX.

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- ACCIDENTAL circumstances in relation to commercial activity, 79, 137.
 Actual position of the United Kingdom, 95.
 African railways and means of communication, 107, 118.
 Agorici, explanation of, 24.
 Agricultural England, 10, 26, 28, 96.
 Agricultural life contrasted with town life, 25.
 Agricultural, pastoral, and mining colonies as trade openings, 140; as emigration fields, 92, 93.
 Agriculture, importance of, 25, 32, 82.
 Agriculture of Holland and Denmark contrasted with that of Ireland, 67, 68.
 Aids to commerce, 182, 183, 184.
 Aids to migration, 85.
 Aller river and area, 160, 163
 Analogies between England and the continent of Europe in geology, climate, and industries, 86, 87, 161.
 Analogous industrial centres, 163.
 Andrioi, explanation of, 23.
 Arabian trade-area, 259
 Association, an inducement for future business life, 8.
 Atlantic Ocean line of communication, 104.
 Australia as a new opening for trade, 141, 146.
 Australia, as an emigration field, 92.
 Australian railways and means of communication, 107, 118.
 BALTIC trade natural area, 161, 218, 235.
 Banking, 52, 182.
 Bank of England, 53.
 Barry, port of, 70, 196.
 Barter as elementary commerce, 4.
 "Beer and butter" region, 12.
 Belfast, port of, 229.
 Belgium and Holland systems of communications, 62.
 Benefits of foreign trade, 137.
 Black Sea natural trade-area, 237.
 Blizzard at New York, 5.
 Bodily organs in relation to division of labour, 22, 23.
 Boreal zone, 12; characteristic yield, 12.
 Brazil as an emigration field, 90.
 Bristol, port of, 47, 67, 71.
 British Isles, positive position, 95, 187, climate, 187, 190; coast, 188; ports, 189, 194; physical features, 189; general aspect, 191; riversystems, 191; localisation of industries, 194; gravitation, 193; centres, 194, 195.
 British produce, 98.
 CALLING-STATIONS, 104.
 Canada as a new opening for trade, 142, 146.
 Canada as an emigration field, 92.
 Canadian natural trade-area, 263.
 Canadian Pacific line, 105, 116, 142.
 Canals of England, 56-58; systems of Europe, 116.

- Capabilities of the United Kingdom, 96.
- Cape Colony as a trade opening, 143, 146.
- Cardiff, port of, 67, 70.
- Cash settlements in relation to imports and exports, 124. *See* Money.
- Catering for the people of England, 3, 15.
- Causes of emigration, 88; (illustrations).
- Causes of migration, 84.
- Celebrated English workers, some, 80.
- Central Africa, opening of, 136, 143, 144, 150.
- Central America, natural trade-area, 263.
- Central Europe, physical features, 160.
- 'Change, 51, 124.
- Characteristic yield of the boreal zone, 12; temperate zone, 12; warm-temperate zone, 12; sub-tropical zone, 13; tropical zone, 13; equatorial zone, 13.
- Chemical constituents in relation to soil and produce, 12.
- Chief exports from England, 125.
- Chief imports to England, 125.
- China as a new opening for trade, 115; natural trade-area, 260; opening of railways, 115.
- Circulation of commodities, 34, 41, 64, 72, 74, 75.
- Civilisation, effects of, and of commerce, 17, 44, 45.
- Classification of ports, 69, 218; of the mercantile marine, 223; of new markets, 137, 138, 147; of workers, 19, 23.
- Climate, 12, 13, 189; on industries, 86-88.
- Climatic zones, 12, 26.
- Clothing, a necessity, 1, 2.
- Coalfields of England, 30, 205.
- Coaling-stations, 103.
- Coasting trade, 58, lines, 59; vessels, 219, 223.
- Colliers, 219.
- Colonial trade, 97, 99, 170; natural area, 265.
- Colonies as trading-stations or entrepôts, 91; as plantation colonies, 92; as agricultural, pastoral, and mining colonies, 92; as store depôts, 93; as emigration fields, 91; as new markets, 139.
- Colonists in relation to the United Kingdom, 98.
- Combination and co-operation, 20, 37, 45, 51.
- Comforts, 2, 28.
- Commerce, explanation of, 4; a necessity, 19, 21, 31; all-pervading, 21; incites to industry, 96; extension of, 34, 37-39.
- Commercial and technical instruction, 184.
- Commercial facilities, 174; activity, far-reaching effects of, 76; explanation of, 215, of England, 216; of Wales, 197; of Scotland, 200, 224; of Ireland, 228; technicalities, 180; travellers, necessity for, 139; geography, 217; storms and crises, 52, 53.
- Commercial towns, definition of, 41, 42.
- Comparison between South England and North France, 96, 97.
- Comparison between places on the same parallel of latitude, 189.
- Comparison between railway facilities in England, Europe, and America, 111, 112.
- Competition, 57, 77, 153, 167; intellectual, 78.
- Competition and progress, 78.
- Competitive markets, 156.
- Concentration, 7, 33; illustration, 33; in relation to individuals, 33, 39, 84; trades, 37, 39; produce, 35, 39.
- Confidence essential, 51.
- Consuls, explanation of, 132, 133.

- Consular reports, 132-134, 138, 139.
 Contrast between dwellers in England, America, and Australia, 2;
 between the railways of Europe, America, and England, 111, 112.
 Contrast between the situation of Ireland and that of England, 228, 229.
 Conveniences, 2.
 Corn-growing counties of England, 207.
 Cotton, 34, 40, 49, 65, 99, 217, 221;
 illustration of circulation, 72.
 Cotton-factory, illustration, 26.
 Counterpart centres of England, and
 of the European continent, 87, 163.
 Counterpart industries, 87.
 Country harvests, 5, 15.
 Country towns, definition of, 41, 42.
 Country well suited for commerce,
 definition of, 187.
 Course of British trade, 153, 154; of
 German trade, 139, 165, 167.
 Course of exchange with our colonies,
 93, 99.
 Credit and capital, 52.
- DAIRY-FARMS, 28.
 Dairy-produce, 67, 68, 213.
 Dantzic, port of, 165.
 Danube, natural trade-area, 238.
 Danube, river, 115, 169.
 Decimal coinage, 177.
 Declining trade explained, 134.
 Definition of a market for goods,
 136, 138.
 Definition of commerce, 4; of com-
 mercial activity, 215; of gravita-
 tion, 59.
 Despatch, a commercial element, 33,
 57, 101, 151.
 Difference between import and ex-
 port values explained, 122-124.
 Distribution of English imports,
 219-222.
 Distribution of workers, 4, 5, 7, 19.
 Divisions of agriculture, 26; of agri-
 cultural England, 206.
- Divisions of English colonies, 91.
 Division of industrial life in Eng-
 land, 193.
 Divisions of labour, necessity for,
 18-24.
- EARTH-GIFTS, 10.
 East African natural trade-area, 261.
 Eastern ocean communications *vid*
 Suez, 106; *vid* the Cape, 107; *vid*
 Cape Horn, 108.
 East Indies natural trade-area, 260.
 Ebb and flow of goods, 72, 153; illus-
 tration, 72, 74, 159.
 Elbe, river and area, 115, 160, 163,
 169.
 Elevation on temperature, 13; illus-
 tration, 13.
 Emigration, 88.
 Emigration lands, 89.
 Emigration movements in Ireland,
 68; on the European continent,
 89; in the United States, 90.
 Emporium, definition of, 40.
 England and her colonies self-sup-
 porting, 93.
 England as a manufacturing country,
 3, 4, 5, 10, 26, 43, 126.
 England's ascendancy, cause of, 43;
 results, 97, 137.
 England's competitors, 150, 152, 156,
 165.
 England's customers, 126, 152, 154.
 England's imports, 34.
 England's mercantile marine, 15,
 101, 104, 126, 223.
 England's resources insufficient for
 the population, 4.
 England's suppliers, 150, 153.
 English ports, 65, 188, 219; plains,
 192; gravitation, 193; centres of in-
 dustry, 194; grazing counties, 207;
 corn-growing counties, 207; mine-
 ral produce, 30, 204-206; vegetable
 produce, 206, 207; fisheries, 207;
 internal trade, 55-62, 215; merging
 into external, 64, 216, standards,

175, 178, 179, 181; railways, 112; shores attracting commerce, 97.
 Entrepôt, definition of, 40.
 Equality scarcely possible, 77.
 Equatorial zone, 13; characteristic yield, 13.
 Exchange or barter leading to commerce, 4, 15, 20, 51, 78.
 Exotics, many of our necessities are, 2.
 Exporting, definition of, 121.
 FAUNA and flora in their relation to each other, 14.
 Fauna characteristic, 14.
 Felt wants, 28, 138, 144.
 Field-workers, 4, 6, 12.
 Fiscal barriers, 143; necessity for a knowledge of, 171.
 Fisheries, 29.
 Fishing villages, definition of, 42.
 Flora characteristic of each zone, 12, 13.
 Flora, spread of, from different zones, 13.
 Food, a necessity, 1, 2.
 Food and clothing, England's supply of the raw material for, 27.
 Food-crops of England, 28.
 Food requirements of our people, 124.
 Foreign standards of value, 175.
 Foreign trade, 34, 97, 102, 167, advantages, 137; of Ireland, 230.
 French or West system of canals, 116.
 Frontier trade, 167.
 GARDEN-PRODUCE of England, 29.
 General cargo boats, 104, 224.
 General cargoes, 59, 224.
 General trade natural area, 161, 240.
 Geology as bearing upon industries, 3, 11, 12, 30, 86, 88; of England, 96.
 Georgia, explanation of, 24.
 German manufacturing industries, 163; agricultural districts, 162; concentration of labourers, 162.
 German or central canal system, 116.

Germany as an emigration field, 89.
 Germany, physical features, 159; industries, 163, 164; gravitation, 161, 163; railway centres, 164; commercial intelligence, 165, 184; commercial activity, 159, 166.
 Germany's imports, 162-170.
 Gibraltar as an emigration field, 93; imports and exports, 156.
 Glasgow, port of, 66, 227; an emporium entrepôt, 41, 127.
 Gloucester, port of, 71.
 Gravitation, explanation of, 59, 69, 112, 150, 151, 193; of wheat to London, 47, 48.
 Grazing counties of England, 207.
 Greater Britain, 95.
 Grimsby, port of, 66.
 Growth of railways, 111; influence on trade, 115.
 Growth of towns, 44, 84, 106; American, 111; of commerce, 37-39.
 HAMBURG, port of, 160, 163.
 Harbours of refuge, 104.
 Hartlepoons, the, port of, 67.
 Haulage, 118.
 Himalaya Mountains, 13.
 Historical commercial cities, 42.
 History of dress in relation to the growth of commerce, 38.
 Home competition merging into national competition, 79.
 Home trade, 204.
 Homeward-bound vessels with grain, 48.
 Hong-Kong, 92-107, 139, 147, 155.
 Hull, port of, 66.

ILLUSTRATION of forwarding goods, 56; of retail business, 35; of ebb and flow of cotton and cash, 72; of exchange and competition, 78; of importing and exporting, 121, 122.
 Illustrations of interchange by common examples, 15, 16.

- Importance of internal waterways, 56, 58, 62.
- Imports, 34 ; Are imports or exports a gain to a country ? 136.
- Imports and exports, an explanation of, 121 ; equalisation of, 122-124 ; illustration, 134.
- In-and-out ports, 49, 69, 218 ; in-ports, 69 ; outports, 69, 218.
- India and Burmah as new openings for trade, 145.
- India as an emigration field, 93.
- Indian manufactures, 145, 146.
- Indian means of communication, 118.
- Indian natural trade area, 259.
- Individual trade in relation to national trade, 121.
- Industrial pursuits, 4, 6, 27, 29, 30 ; centres, 87 ; counterpart, 86, 87.
- Industries in relation to localities, 25, 30, 111 ; to features, 7, 161, 193 ; to nature, 168, 169, 193 ; to geology, 86, 111 ; to agriculture, 27 ; to mining, 30 ; to seafaring, 29.
- Industry on nature, 3, 10.
- Influences on earth-gifts in the organic kingdoms, 11.
- Inlets and outlets, definition of, 59, 63.
- Insular position of England, advantages, 58, 95, 97 ; disadvantages, 102 ; effect on temperature, 14, 195
- Insurance, 51, 182, 223.
- Intellectual competition, 78, 81, 171, 184.
- Intellectual enjoyments, 2, 22, 184.
- Intellectual labourers are commercial, 16, 17, 21.
- Intelligence a factor of production, 16, 29, 184.
- Intelligent industry a moral science, 3.
- Intermediate zone, 169.
- International thoroughfares, 112.
- Invention and experiment, results of, 80, 81.
- Irish mineral products, 211 ; agricultural products, 212 ; fisheries, 213 ; resources for commercial exchange, 67.
- Irish ports, 67.
- Ireland, geographical and commercial position, 201 ; general aspect, 201 ; commercial centres and industrial sites, 202 ; commercial activity, 228.
- Iron, products of, 19.
- Isothermal, or lines of equal seasonal heat, 12, 14, 195.
- JAPAN, trade of, 156.
- Japanese natural trade-area, 260.
- KNOWLEDGE required by a manufacturer, 129, 217 ; a mine-owner, 129 ; a shipowner, 130, 216 ; an agent or broker, 217 ; a merchant, 216.
- LABOUR and intelligent industry on nature, 3.
- Labour the outcome of muscle and mind, 22.
- Lands bidding for emigrants, 89.
- Languages, importance of, 130, 133.
- La Plata as an emigration field, 90.
- Laws, 52 ; necessity for a knowledge of, 171.
- Laws of migration, 85.
- Leith, port of, 66.
- Levant natural trade-area, 258.
- Liverpool, port of, 65 ; an entrepôt, 40, 65, 73 ; an emporium, 41, 65, 127 ; business capabilities, 65, 66, 70.
- Lloyd's, 51.
- Localisation of industries in relation to geological structure, 194.
- London, population of, 7 ; a centre, 41, 46, 53 ; a port, 46, 47, 49, 127 ; a commercial city, 47 ; a corn centre, 47 ; meat markets, 48 ; fish markets, 48 ; colonial produce centre, 48 ; hrp market, 49 ; fruit market, 40 ; food and clothing pro-

- ducts, market for, 49; mineral and metal markets, 49; a "market of markets," 46, 49; banking, 52; approachability, 52; shipping, 52, 64; commercial activity, 46, 219; an emporium entrepôt, 46, 49; an amalgamation of a manufacturing, mining, maritime, and commercial city, 47; manufactures, 47; an "in-and-out" port, illustration, 50; river view, 50, 51; the streets of, 53.
- Luxuries, 2, 28.
- MAIL-ROUTE to the East, 114.
- Malta, 93, 155.
- Man's influence on physical features, 112, 113, 153, 161, 163, 191; on agriculture, 83.
- Manufacturing town, definition of, 41, 42.
- Market-gardens, 28.
- Markets, 15, 40, 99; open, 40; outside, necessity for, 15; acting upon each other, 39, 43.
- Markets of London, 47-49.
- Market town, definition of, 42.
- Means of correspondence and communication, 183.
- Means of transport, growth of, 172; in relation to resources, 101.
- Mediterranean natural-trade area, 239.
- Medium of exchange, explanation of, 74.
- Merchandise, explanation of, 4.
- Merchant, the, 4, 17; his duties, 4, 8; relation to retail and wholesale business, 15, 31, 37; requirements, 129, 216.
- Merchant service of England, 15, 101, 104, 126, 223.
- Mètre, 180.
- Metric system, 179, 180.
- Middlesbro', port of, 7, 67.
- Migration merging into emigration, 88.
- Migrations at home, definition of, 83.
- Migratory movements, 6, 84, 86.
- Milford Haven, 197.
- Mineral kingdom, 11; resources of, 30, 204.
- Minerals, economic, of England, 30.
- Mining industries, 4, 6, 30.
- Mining town, definition of, 42.
- Mississippi river, 117.
- Money, 21, 51, 74, 121, 174, 178; in relation to imports and exports, illustration, 121, 124; a return current, 73, 75.
- Monopoly, effects of, 57.
- Morocco as a new market, 138, 147.
- Movement of goods, 34.
- Movements of emigrants in the United States, 90.
- NATIONAL and international systems of canals, 116.
- National competition, 79, 80, 81, 150, 152, 153.
- National turn-over, 121.
- Natural in contradistinction to national areas, 170, 234.
- Natural resources, 10.
- Nature as an acclimatizer, 14, 149.
- Nature as a spontaneous giver, 3, 10.
- Nature on industries, 168, 204.
- Navy of England, 103; an aid to commerce, 181.
- Necessaries of life, 1, 2, classes of, 2.
- Necessity for a knowledge of languages, 130; how to adapt ourselves to the wants of our customers, 133, 138, 139; of laws, 171; of fiscal barriers, 171.
- Newcastle, port of, 67.
- New markets, definition of, 137, 138.
- New openings for trade, 136-148.
- Newport, port of, 67, 70.
- New York, port of, 105.
- North African trade-area, 261.
- North American railways and means of communication, 106, 116, 117.

- North and Central Asian trade-area, 260.
 Norway as an emigration field, 89.
 Norwegian natural trade-area, 241.
 Nubia and Abyssinia natural trade-area, 261.
 OCEAN highways, 104.
 Oder river and area, 160, 163.
 Oikici, explanation of, 24.
 Openings for trade defined, 136-138.
 Organic kingdom, 11.
 "Orient Line," the, 114.
 Outlets, great central, 69; central, 69; secondary, 69; outlets, 69; mail, 69; small, 69.
 Outside influences on trade, 69, 70.
 PANAMA CANAL, 108.
 Persian Gulf, natural trade-area, 259.
 Plantation colonies, 91; as emigration fields, 92; as new markets, 140.
 Pleasure resorts, definition of, 42.
 Population of England, 3, 7; of London, 7.
 Population, distribution of, 4, 5, 7, 19, 29.
 Port, definition of, 46, 69, 70; in-and-out, 49.
 Position of the United Kingdom, 95, 97, 102.
 Pound sterling, 175; weight, 179.
 Preparation for after-life, 8.
 Productiveness of England, 4, 10, 15, 26.
 Products, advanced, 19, 73.
 Products, definition of, 6; illustration, 6, 73.
 Proportion of imports to exports, and of exports to imports, 155.
 "Protection," illustration, 78.
 Pulman car, 111.
 RAILWAY centres, creation of, 164.
 Railways and telegraphs in relation to commerce and industries, 62, 110.
 Railways, influence on industrial sites, 110, 164, 165.
 Railways radiating from London, 60-62.
 Railway thoroughfares of Europe, W. to E., 113-115; N. to S., 115; of America, E. to W., 116; N. to S., 117.
 Raw materials, 10; illustration, 10.
 "Reading" a map, 153, 158, 159.
 Real or fancied gifts as inducements for active commercial life, 8.
 Regular liners, 104, 223.
 Relative position of the United Kingdom, 95.
 Relative position of nationalities, 79.
 Requirements of a cotton manufacturer, a woollen manufacturer, or a metal and mineral proprietor, 129; a merchant and a shipowner, 130, 216.
 Restrictions on competition, 78.
 Retail business, 31, 35; illustrations, 35.
 Rhine river, 115, 160, 161, 163.
 Rivalry of States, 79.
 River arteries of Europe, 115.
 Rivers of North and South America, 117.
 River systems of England, 191, 192; in relation to the well-being of a country, 191.
 Roads of England, 55.
 Rural occupations, 6, 25; as related to localities, 25-27; contrasted with town pursuits, 27, 33, 85.
 Russian or Maria system of canals, 116.
 Russian railway advance, 113.
 SALONICA, port of, 114; future prospects, 114.
 Science in relation to seafaring life, 31.
 Scotland, geographical position, 198; climate, 199, 225; rivers, 198, 199; coast, 200; centres, 200; industrial

- sites, 200, 225; mineral products, 209; vegetable products, 210; fisheries, 210; commercial activity, 224.
 Sea industry, 29; in relation to commerce, 37.
 Seaports as distributing centres, 151; illustration, 159.
 Seasons of migration, 84.
 Severn river and basin, 192.
 Shelter, a necessity, 1, 2.
 Shipbuilding, 49.
 Shoemaker, illustration of, 18, 19.
 Siberian railway line proposed, 113.
 Singapore, 92, 107, 147.
 Skilled labour, 3.
 Soil, 11.
 Sources of supply, 10-17.
 South Africa as an emigration field, 92; natural trade-area, 262.
 South American railways, 117; natural trade-area, 264; as an emigration field, 90.
 Southampton, port of, 67.
 South Central Europe, 169.
 South Germany, 168.
 Sovereign, the, 175.
 Standards of value, 174; foreign, 175; of weights and measurements, 178, 179; standard yard, 179.
 Staples of the Baltic trade, 236; the Black Sea trade, 237; the Danube trade, 239; the Mediterranean trade, 239, 240; the General trade, 240, 241; the Norwegian and White Sea trades, 241; the Levant trade, 258; the Persian Gulf trade, 259, the Indian and East Indian trades, 259, 260; the Chinese and Japanese trades, 260, the African trades, 262; the North American trades, 263; the South American trades, 264; the Colonial trade, 265.
 Statistics, commercial, explained, 130-132 (illustrations).
 Stimulating effects of commerce, 80.
 "Stock-in-trade," 52, 75.
 Store depôt colonies, 91, 103; as emigration fields, 93; as customers, 155; as new markets, 143, 146, 156.
 Structure of England and Scotland, 95.
 Studies of the ports of the United Kingdom, 219, with the imports; deductions, 219-223.
 Sub-tropical zone, 13, characteristic yield, 13.
 Sunderland, port of, 67.
 Superposition of rocks, 11.
 Supply and demand, 73, 157.
 Surplus labour, 5, 15.
 Swansea, port of, 67, 70.
 Sweden as an emigration field, 89.
 Switzerland, 167, 170.
 TECHNICAL and commercial instruction, 184, 185.
 Technicalities of mercantile trade, 227.
 Technici, explanation of, 24.
 Temperate zone, 12, characteristic yield, 12.
 Temperature, 13.
 Tendency of railway extension in Europe generally, 113, in Russia, 113.
 Tendency to locate where labour can be best exchanged, 7.
 Territorial separation equivalent to a division of labour, 120.
 Thames, survey of the river, 50, 51; its shipping, 57, 64.
 Thibet as a new opening for trade, 147.
 Town harvests, 5, 15, 34.
 Town pursuits in relation to country occupations, 25, 33, 85, complexity of, 33.
 Towns, size of, 44; growth of, 44, 55, 84, 111.
 Trade-areas in relation to latitudes and isotherms, 242, 256, 260, 262, 264, 265.

- Trade-areas of Europe, 235; Asia, 258; Africa, 261; North America, 263; South America, 264; Australia, 265.
- Trade profits explained, 127.
- Trading colonies, 91, 155; as new markets, 139; as emigration fields, 92.
- Transit goods, 64; country, 170.
- Transshipment, or breaking bulk, in relation to the value of goods, 53, 102.
- Transport facilities on migration, 85.
- Tropical zone, 13; characteristic yield, 13.
- Tunnelling an aid to commerce, 113.
- UBIQUITY of the British flag, 102.
- Ulster the industrial province of Ireland, 229.
- Uniformity of standards, 179.
- United States as emigration fields, 90; movements in, 90.
- Urban industries, 6; complexity of, 33; as related to localities, 25, 191, 194.
- VEGETATION of England contrasted with that of Europe, 28.
- Vistula, river and area, 115, 160, 163.
- Volga river, 115.
- Vulgar theory of advantages to commerce, 136.
- WAGES, 5, 20, 21.
- Wales, geographical position, 195; climate, 195; coasts, 196; gravitation, 196; mineral products, 209; vegetable products, 209; localisation of industries, 197; commercial activity, 197.
- Wants, to be created, 138, 141.
- Warehouses, necessity for, 39, 40; illustration, 40.
- Warm-temperate zone, 13; characteristic yield, 13.
- Warmth a necessity, 1, 2.
- Warta, river and area, 160.
- Water-carriage *versus* land-carriage, 118, 129.
- Well-being of a country dependent upon river systems, 190, 191.
- Weser, river and area, 115, 160, 163.
- West African colonies as new markets, 144.
- West African natural trade-area, 262.
- West Indian islands as new markets, 144; as emigration fields, 92.
- West Indian ocean highway, 108.
- West coast natural trade-area, 264.
- West of England commerce, 47.
- Westward wave of emigration, 89-90.
- Wheat, growth of, by zones, 13.
- White Sea natural trade-area, 241.
- Wholesale business, 35.
- "Wine and oil" region, 12, 169.
- Wool trade, 49, 93, 129.